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NEWS 4	Apr 09	ZDB will be removed from STN
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NEWS 6	Apr 22	Records from IP.com available in CAPLUS, HCAPLUS, and ZCAPLUS
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NEWS 8	Apr 22	Federal Research in Progress (FEDRIP) now available
NEWS 9	Jun 03	New e-mail delivery for search results now available
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NEWS 11	Jun 10	PCTFULL has been reloaded
NEWS 12	Jul 02	FOREGE no longer contains STANDARDS file segment
NEWS 13	Jul 22	USAN to be reloaded July 28, 2002; saved answer sets no longer valid
NEWS 14	Jul 29	Enhanced polymer searching in REGISTRY
NEWS 15	Jul 30	NETFIRST to be removed from STN
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NEWS 17	Aug 08	PHARMAMarketLetter(PHARMAML) - new on STN
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NEWS 20	Aug 19	IFIPAT, IFICDB, and IFIUDB have been reloaded
NEWS 21	Aug 19	The MEDLINE file segment of TOXCENTER has been reloaded
NEWS 22	Aug 26	Sequence searching in REGISTRY enhanced
NEWS 23	Sep 03	JAPIO has been reloaded and enhanced
NEWS 24	Sep 16	Experimental properties added to the REGISTRY file
NEWS 25	Sep 16	CA Section Thesaurus available in CAPLUS and CA
NEWS 26	Oct 01	CASREACT Enriched with Reactions from 1907 to 1985
NEWS 27	Oct 21	EVENTLINE has been reloaded
NEWS 28	Oct 24	BEILSTEIN adds new search fields
NEWS 29	Oct 24	Nutraceuticals International (NUTRACEUT) now available on STN
NEWS 30	Oct 25	MEDLINE SDI run of October 8, 2002
NEWS 31	Nov 18	DKILIT has been renamed APOLLIT
NEWS 32	Nov 25	More calculated properties added to REGISTRY
NEWS 33	Dec 02	TIBKAT will be removed from STN
NEWS 34	Dec 04	CSA files on STN
NEWS 35	Dec 17	PCTFULL now covers WP/PCT Applications from 1978 to date
NEWS 36	Dec 17	TOXCENTER enhanced with additional content
NEWS 37	Dec 17	Adis Clinical Trials Insight now available on STN
NEWS 38	Dec 30	ISMEC no longer available
NEWS 39	Jan 13	Indexing added to some pre-1967 records in CA/CAPLUS
NEWS 40	Jan 21	NUTRACEUT offering one free connect hour in February 2003
NEWS 41	Jan 21	PHARMAML offering one free connect hour in February 2003
NEWS 42	Jan 29	Simultaneous left and right truncation added to COMPENDEX, ENERGY, INSPEC

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AND CURRENT DISCOVER FILE IS DATED 01 OCTOBER 2002

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=> s array(6w)(antibody or fab or scfv or antigen binding derivative)
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        404197 ANTIBODY
         14505 FAB
          1067 SCFV
        305237 ANTIGEN
        611036 BINDING
         51869 DERIVATIVE
             0 ANTIGEN BINDING DERIVATIVE
                 (ANTIGEN(W)BINDING(W)DERIVATIVE)
L1          28 ARRAY(6W)(ANTIBODY OR FAB OR SCFV OR ANTIGEN BINDING DERIVATIVE)

=> d l1 1-28 ti au so py ab

L1   ANSWER 1 OF 28     MEDLINE
TI   Analysis of several fluorescent detector molecules for protein microarray
     use.
AU   Wiese Rick
SO   LUMINESCENCE, (2003 Jan-Feb) 18 (1) 25-30.
     Journal code: 100889025. ISSN: 1522-7235.
PY   2003
AB   The utility of several streptavidin-linked fluorescent detector molecules
     was evaluated on two protein microarray platforms. Tested detector
     molecules included: Alexa Fluor 546; R-phycoerythrin (RPE), orange
     fluospheres; Cy3-containing liposomes (Large Unilamellar Vesicles, LUV)
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labelled with Cy3; and an RPE-antibody complex. The two array architectures tested consisted of an array of murine Fc-biotin and an array of murine IgG (the murine IgG array was probed with a biotinylated rabbit anti-murine IgG). These platforms allowed for the direct comparison of detector utility by detector recognition of array-bound biotin. All of the fluorescent detectors examined demonstrated utility on each of the array platforms. For the Fc-biotin array, detector signal intensity (background adjusted) was as follows: RPE-antibody complex > fluospheres > RPE > liposomes > Alexa 546: for the IgG **array**: RPE/**antibody** complex > RPE > fluospheres > Alexa546 > liposomes. The RPE-antibody complex fluoresced 67% and 150% more intensely than the next closest detector molecule for the Fc-biotin and the murine IgG arrays, respectively. A marked increase in background fluorescence (as compared to RPE alone) did not accompany the increase in signal intensity gained through RPE-antibody complex use (a true increase in signal:noise ratio). These results suggest that the RPE-antibody complex is superior to other molecules for fluorescent detection of analytes on protein microarrays.

L1 ANSWER 2 OF 28 MEDLINE
TI A microarray immunoassay for simultaneous detection of proteins and bacteria.
AU Delehanty James B; Ligler Frances S
SO ANALYTICAL CHEMISTRY, (2002 Nov 1) 74 (21) 5681-7.
Journal code: 0370536. ISSN: 0003-2700.
(Investigators: Ligler F S, Naval Res Lab, Washington, DC)
PY 2002
AB We report the development and characterization of an antibody microarray biosensor for the rapid detection of both protein and bacterial analytes under flow conditions. Using a noncontact microarray printer, biotinylated capture antibodies were immobilized at discrete locations on the surface of an avidin-coated glass microscope slide. Preservation of capture antibody function during the deposition process was accomplished with the use of a low-salt buffer containing sucrose and bovine serum albumin. The slide was fitted with a six-channel flow module that conducted analyte-containing solutions over the **array** of capture **antibody** microspots. Detection of bound analyte was subsequently achieved using fluorescent tracer antibodies. The pattern of fluorescent complexes was interrogated using a scanning confocal microscope equipped with a 635-nm laser. This microarray system was employed to detect protein and bacterial analytes both individually and in samples containing mixtures of analytes. Assays were completed in 15 min, and detection of cholera toxin, staphylococcal enterotoxin B, ricin, and Bacillus globigii was demonstrated at levels as low as 8 ng/mL, 4 ng/mL, 10 ng/mL, and 6.2 x 10(4) cfu/mL, respectively. The assays presented here are very fast, as compared to previously published methods for measuring antibody-antigen interactions using microarrays (minutes versus hours).

L1 ANSWER 3 OF 28 MEDLINE
TI Characterization and optimization of peptide arrays for the study of epitope-antibody interactions using surface plasmon resonance imaging.
AU Wegner Greta J; Lee Hye Jin; Corn Robert M
SO ANALYTICAL CHEMISTRY, (2002 Oct 15) 74 (20) 5161-8.
Journal code: 0370536. ISSN: 0003-2700.
PY 2002
AB The characterization of peptide arrays on gold surfaces designed for the study of peptide-antibody interactions using surface plasmon resonance (SPR) imaging is described. A two-step process was used to prepare the peptide arrays: (i) a set of parallel microchannels was used to deliver chemical reagents to covalently attach peptide probes to the surface by a thiol-disulfide exchange reaction; (ii) a second microchannel with a wraparound design was used as a small-volume flow cell (5 microL) to introduce antibody solutions to the peptide surface. As a demonstration, the interactions of the FLAG epitope tag and monoclonal anti-FLAG M2 were monitored by SPR imaging using a peptide **array**. This peptide-

antibody pair was studied because of its importance as a means to purify fusion proteins. The surface coverage of the FLAG peptide was precisely controlled by creating the peptide arrays on mixed monolayers of alkanethiols containing an amine-terminated surface and an inert alkanethiol. The mole fraction of peptide epitopes was also controlled by reacting solutions containing FLAG peptide and the non-interacting peptide HA or cysteine. By studying variants based on the FLAG binding motif, it was possible to distinguish peptides differing by a single amino acid substitution using SPR imaging. In addition, quantitative analysis of the signal was accomplished using the peptide array to simultaneously determine the binding constants of the antibody-peptide interactions for four peptides. The binding constant, K(ads), for the FLAG peptide was measured and found to be 1.5 x 10(8) M(-1) while variants made by the substitution of alanine for residues based on the binding motif had binding constants of 2.8 x 10(7), 5.0 x 10(6), and 2.0 x 10(6) M(-1).

L1 ANSWER 4 OF 28 MEDLINE
TI Single antigen **array** for identification of HLA **antibody** profiles in human sera.
AU Lee Jar; Pei Rui; Shih Remi; Chen Mike; Hernandez Iris
SO HUMAN IMMUNOLOGY, (2002 Oct) 63 (10 Suppl) S76.
Journal code: 8010936. ISSN: 0198-8859.
PY 2002

L1 ANSWER 5 OF 28 MEDLINE
TI Protein array technology: the tool to bridge genomics and proteomics.
AU Eickhoff Holger; Konthur Zoltan; Lueking Angelika; Lehrach Hans; Walter Gerald; Nordhoff Eckhard; Nyarsik Lajos; Bussow Konrad
SO ADVANCES IN BIOCHEMICAL ENGINEERING/BIOTECHNOLOGY, (2002) 77 103-12. Ref: 42
Journal code: 8307733. ISSN: 0724-6145.
PY 2002
AB The generation of protein chips requires much more efforts than DNA microchips. While DNA is DNA and a variety of different DNA molecules behave stable in a hybridisation experiment, proteins are much more difficult to produce and to handle. Outside of a narrow range of environmental conditions, proteins will denature, lose their three-dimensional structure and a lot of their specificity and activity. The chapter describes the pitfalls and challenges in Protein Microarray technology to produce native and functional proteins and store them in a native and special environment for every single spot on an **array**, making applications like **antibody** profiling and serum screening possible not only on denatured arrays but also on native protein arrays.

L1 ANSWER 6 OF 28 MEDLINE
TI Newer antidotal therapies.
AU Gwaltney-Brant Sharon M; Rumbeiha Wilson K
SO VETERINARY CLINICS OF NORTH AMERICA. SMALL ANIMAL PRACTICE, (2002 Mar) 32 (2) 323-39. Ref: 46
Journal code: 7809942. ISSN: 0195-5616.
PY 2002
AB Although the availability of an antidote for a toxic agent does not take away the primary responsibility of the clinician to manage the patient's clinical signs, the use of antidotes in appropriate situations can result in a more rapid recovery with potentially fewer long-term complications. Recent advances in pharmacology and molecular biology have resulted in the development of new and safer antidotal therapies for the management of toxicosis. The progress in immunotoxicotherapy over the last two decades continues and may ultimately lead to an era when the clinical toxicologist has a vast **array** of **antibody** fragments available for use with specific toxic agents. Development of specific pharmacologic antagonists for other agents should also enable the clinician to more reliably manage toxicoses. In spite of all these potential advances, the management of most toxicoses still relies on the application of sound

veterinary medical principles.

L1 ANSWER 7 OF 28 MEDLINE
TI Immunophenotyping of leukemias using a cluster of differentiation antibody microarray.
AU Belov L; de la Vega O; dos Remedios C G; Mulligan S P; Christopherson R I
SO CANCER RESEARCH, (2001 Jun 1) 61 (11) 4483-9.
Journal code: 2984705R. ISSN: 0008-5472.
PY 2001
AB Different leukemias express on their plasma membranes particular subsets of the 247 defined cluster of differentiation (CD) antigens, which may resemble those of precursor cells along the lineages of differentiation to mature myeloid and lymphoid leukocytes. The extent of use of CD antigen expression (immunophenotyping) for identification of leukemias has been constrained by the technique used, flow cytometry, which commonly specifies only three CD antigens in any one assay. Currently, leukemias and lymphomas are diagnosed using a combination of morphology, immunophenotype, cytochemistry, and karyotype. We have developed a rapid, simple procedure, which enables concurrent determination of 50 or more CD antigens on leukocytes or leukemia cells in a single analysis using a microarray of antibodies. A suspension of cells is applied to the **array**, and cells only bind to **antibody** dots for which they express the corresponding CD antigen. For patients with significantly raised leukocyte counts, the resulting dot pattern then represents the immunophenotype of those cells. For patients at earlier stages of disease, the diagnosis depends on recognition of dot patterns distinct from the background of normal leukocytes. Distinctive and reproducible dot patterns have been obtained for normal peripheral blood leukocytes, chronic lymphocytic leukemia (CLL), hairy cell leukemia, mantle cell lymphoma, acute myeloid leukemia, and T-cell acute lymphoblastic leukemia. The consensus pattern for CD antigen expression found on CLL cells taken from 20 patients in descending order of cells bound was CD44, HLA-DR, CD37, CD19, CD20, CD5, CD52, CD45RA, CD22, CD24, CD45, CD23, CD21, CD71, CD11c, and CD9. The antigens that provided the best discrimination between CLL and normal peripheral blood leukocytes were CD19, CD20, CD21, CD22, CD23, CD24, CD25, and CD37. Results obtained for the expression of 48 CD antigens from the microarray compared well with flow cytometry. The microarray enables extensive immunophenotyping, and the intact cells captured on antibody dots can be further characterized using soluble, fluorescently labeled antibodies.

L1 ANSWER 8 OF 28 MEDLINE
TI The distribution of myosin heavy chain isoforms among rat extraocular muscle fiber types.
AU Rubinstein N A; Hoh J F
SO INVESTIGATIVE OPHTHALMOLOGY AND VISUAL SCIENCE, (2000 Oct) 41 (11) 3391-8.
Journal code: 7703701. ISSN: 0146-0404.
PY 2000
AB PURPOSE: To determine the distribution of myosin heavy chain isoforms in each extraocular muscle (EOM) fiber type. METHODS: Serial sections of adult rat EOMs were stained with isoform-specific monoclonal antibodies against an **array** of myosin heavy chains. Immunofluorescent **antibody** staining of whole adult rat EOMs, examined by confocal microscopy, demonstrated the longitudinal variations of isoforms along individual fibers. RESULTS: Each global fiber type reacted predominantly with a single isoform-specific antibody and showed no longitudinal variation. Two major orbital fibers were defined, and both contained multiple myosin heavy chains. Both orbital singly and multiply innervated fibers stained proximal and distal to the neuromuscular junction with antibody to embryonic myosin heavy chain, but this isoform was sharply and completely excluded from the domain of the neuromuscular junction. Orbital singly innervated fibers also contained the EOM-specific isoform at the neuromuscular junction. Orbital multiply innervated fibers did not contain the EOM-specific isoform, but additionally contained a slow isoform along their entire length. CONCLUSIONS: Adult rat EOMs show unique fiber types

with arrangements of myosin heavy chain isoforms not seen in other skeletal muscles. Moreover, unique cellular mechanisms must exist to target each isoform to its proper domain along individual orbital fibers.

L1 ANSWER 9 OF 28 MEDLINE
TI Edrecolomab (monoclonal antibody 17-1A).
AU Adkins J C; Spencer C M
SO DRUGS, (1998 Oct) 56 (4) 619-26; discussion 627-8. Ref: 41
Journal code: 7600076. ISSN: 0012-6667.
PY 1998
AB Edrecolomab is a mouse-derived monoclonal IgG2a antibody. It recognises the human tumour-associated antigen CO17-1A which is expressed on the cell surface of a wide variety of tumours and normal epithelial tissue. Edrecolomab is thought to destroy tumour cells by activating an **array** of endogenous cytotoxic mechanisms, including **antibody**-dependent cell-mediated cytotoxicity and possibly antibody-dependent complement-mediated cytotoxicity. Edrecolomab may induce antitumour activity indirectly by inducing a host anti-idiotypic antibody response. Adjuvant therapy with edrecolomab (500 mg initial dose followed by four 100 mg infusions administered at 4-weekly intervals) significantly improved survival and reduced the tumour recurrence rate in patients with resected Dukes' stage C colorectal cancer and minimal residual disease. Data from several small clinical trials suggest that edrecolomab given as monotherapy or in combination with other antineoplastic agents has limited efficacy in the treatment of advanced colorectal or pancreatic tumours. However, results from a small phase I study in patients with advanced breast cancer were more promising. Edrecolomab was generally well tolerated in clinical trials. In a postmarketing surveillance study, the most common adverse events associated with edrecolomab were flushing/erythema and gastrointestinal symptoms including diarrhoea, abdominal pain and nausea and vomiting. Because edrecolomab is of murine origin, anaphylactic reactions have developed in some patients treated with the drug.

L1 ANSWER 10 OF 28 MEDLINE
TI The adenomatous polyposis coli-binding protein EB1 is associated with cytoplasmic and spindle microtubules.
AU Berrueta L; Kraeft S K; Tirnauer J S; Schuyler S C; Chen L B; Hill D E; Pellman D; Bierer B E
SO PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, (1998 Sep 1) 95 (18) 10596-601.
Journal code: 7505876. ISSN: 0027-8424.
PY 1998
AB The evolutionarily conserved protein EB1 originally was identified by its physical association with the carboxyl-terminal portion of the adenomatous polyposis coli (APC) tumor suppressor protein, an APC domain commonly mutated in familial and sporadic forms of colorectal neoplasia. The subcellular localization of EB1 in epithelial cells was studied by using immunofluorescence and biochemical techniques. EB1 colocalized both to cytoplasmic microtubules in interphase cells and to spindle microtubules during mitosis, with pronounced centrosome staining. The cytoskeletal **array** detected by anti-EB1 **antibody** was abolished by incubation of the cells with nocodazole, an agent that disrupts microtubules; upon drug removal, EB1 localized to the microtubule-organizing center. Immunofluorescence analysis of SW480, a colon cancer cell line that expresses only carboxyl-terminal-deleted APC unable to interact with EB1, demonstrated that EB1 remained localized to the microtubule cytoskeleton, suggesting that this pattern of subcellular distribution is not mediated by its interaction with APC. In vitro cosedimentation with taxol-stabilized microtubules demonstrated that a significant fraction of EB1 associated with microtubules. Recent studies of the yeast EB1 homologues Mal3 and Bim1p have demonstrated that both proteins localize to microtubules and are important in vivo for microtubule function. Our results demonstrate that EB1 is a novel component of the microtubule cytoskeleton in mammalian cells. Associating

with the mitotic apparatus, EB1 may play a physiologic role connecting APC to cellular division, coordinating the control of normal growth and differentiation processes in the colonic epithelium.

L1 ANSWER 11 OF 28 MEDLINE
TI Immunity to PRRSV: double-edged sword.
AU Molitor T W; Bautista E M; Choi C S
SO VETERINARY MICROBIOLOGY, (1997 Apr) 55 (1-4) 265-76. Ref: 33
Journal code: 7705469. ISSN: 0378-1135.
PY 1997
AB The immune system is a double-edged sword for porcine reproductive and respiratory syndrome virus (PRRSV) infection. On one edge PRRSV has a predilection for immune cells and the disease manifestations can be linked directly to changes in the immune system. PRRSV appears to replicate extensively, if not exclusively, in cells of the immune lineage, notably macrophages; the direct replication of which may lead to immunosuppression, precipitate secondary infection and/or mediate disease. On the other edge, the virus stimulates immunity post-infection that protects an animal from re-infection. A vast **array** of structural and functionally distinct **antibody** specific to PRRSV are generated following infection or vaccination. Discrete populations of functional antibodies appear at different times and possibly reflect reactivity to different PRRSV polypeptides. Cell-mediated immune responses specific to PRRSV can be detected in various exposed pigs as well. Thus, the immune system appears to be intimately involved in both the disease process and protection from disease. It is unclear at this state of understanding what immune compartment provides protective immunity. It is humoral (i.e. antibodies), selective functionally distinct populations of antibodies specific for selected PRRSV polypeptides or is cellular immunity essential for protection, or both. This review will attempt to summarize the current state of knowledge of the complex interaction of the immune system and PRRSV.

L1 ANSWER 12 OF 28 MEDLINE
TI Comparison of IgE and IgG antibody responses of atopic individuals with sensitization to tree and grass pollens.
AU Olsen E; Fallang A; Mohapatra S S
SO ALLERGY, (1995 Sep) 50 (9) 734-40.
Journal code: 7804028. ISSN: 0105-4538.
PY 1995
AB Sera of atopic individuals with predominant sensitization to either tree pollen (TAs) or tree and grass pollens (TGAs) as well as of nonatopic subjects (NAs) were analyzed for IgE, IgG, and IgG4 antibodies specific for grass pollens allergens. Of 600 atopic individuals with serum IgE antibodies specific for birch pollen allergens, 54% also had serum IgE antibodies specific for grass pollen. The mean titers of IgG antibodies specific for grass pollen proteins were about 10 times higher in the sera of TGAs than those in the TAs and NAs. SDS-PAGE immunoblotting analysis of grass pollen proteins using sera of TGAs, TAs, and NAs with respect to the binding of these proteins with IgE and IgG antibodies in these sera exhibited a similar pattern of variation. Quantitation by enzyme immunoassay of the antibody binding to a recombination grass pollen allergen, rKBG8.3, further demonstrated the elevated IgG antibody levels in TGAs are mainly due to a broader range of specificities, and not to high specific binding to the individual protein. Statistically significant correlation was found between IgE and IgG4 antibodies specific for the Kentucky bluegrass (KBG) extract, but not for the isolated recombinant allergen. These results indicate that the grass pollens elicit a complex **array** of **antibody** specificities in both atopics and nonatopics, and that the profile of antibodies specific to the pollen extract and pure allergens differs, suggesting that single grass allergens may be inadequate for replacing grass pollen extracts for immunotherapy.

L1 ANSWER 13 OF 28 MEDLINE
TI Cucumber mosaic cucumovirus antibodies from a synthetic phage display

library.
AU Ziegler A; Torrance L; Macintosh S M; Cowan G H; Mayo M A
SO VIROLOGY, (1995 Dec 1) 214 (1) 235-8.
Journal code: 0110674. ISSN: 0042-6822.
PY 1995
AB Antibody fragments (scFv) that bind specifically to particles of cucumber mosaic cucumovirus (CMV) were obtained from a library which encodes a diverse **array** of synthetic **antibody** fragments, each displayed on the surface of filamentous bacteriophage. After four rounds of selection and enrichment, several clones were obtained which produced scFv that bound specifically to purified particles of CMV in ELISA. BstNI digestion of phagemid DNA resulted in the same restriction pattern for all clones. The nucleotide sequences of three of the clones showed that they belonged to the human VH1 family and that they had a complementarity determining region loop of 7 amino acids. Phage-displayed antibodies and soluble scFv secreted by these clones reacted with particles of CMV in sap from infected plants in ELISA. In immunoblotting tests, soluble scFv preparations reacted with SDS-denatured coat protein extracted from purified preparations of CMV isolates belonging to either subgroup I or II and also with protein extracted by SDS treatment of seeds harvested from naturally infected lupin plants. The results demonstrate the feasibility, and potential applicability, of recombinant antibody methods in plant pathology.

L1 ANSWER 14 OF 28 MEDLINE
TI Specific capture of targeted hematopoietic cells by high gradient magnetic separation by the use of ordered wire **array** filters and tetrameric **antibody** complexes linked to a dextran iron particle.
AU Roath S; Thomas T E; Watson J H; Lansdorp P M; Smith R J; Richards A J
SO PROGRESS IN CLINICAL AND BIOLOGICAL RESEARCH, (1994) 389 155-63.
Journal code: 7605701. ISSN: 0361-7742.
PY 1994

L1 ANSWER 15 OF 28 MEDLINE
TI Clonal selection and amplification of phage displayed antibodies by linking antigen recognition and phage replication.
AU Duenas M; Borrebaeck C A
SO BIO/TECHNOLOGY, (1994 Oct) 12 (10) 999-1002.
Journal code: 8309273. ISSN: 0733-222X.
PY 1994
AB The immune response generates a tremendous **array** of **antibody** specificities by VDJ-gene rearrangements. A similar diversity can be obtained by expressing entire V-gene repertoires on the surface of filamentous bacteriophages creating large antibody libraries. Here we describe how the clonal selection mechanisms of the humoral immune response can also be mimicked in the phage display system by linking antigen-recognition and phage replication. We have achieved this by displaying antibody libraries on engineered, non-infectious phage with gene 3 deletions. Individual, antigen-specific phage are made replication competent by allowing a fusion protein, consisting of the antigen and phage coat protein 3, to bind the displayed antibody fragment. This fusion protein bridges the phage and F-pili of the bacteria and allows infection to be initiated and the phage to be clonally amplified with specific enrichment factors of approximately 10(10) after only two rounds.

L1 ANSWER 16 OF 28 MEDLINE
TI Kinesin-like molecules involved in spindle formation.
AU Rodionov V I; Gelfand V I; Borisy G G
SO JOURNAL OF CELL SCIENCE, (1993 Dec) 106 (Pt 4) 1179-88.
Journal code: 0052457. ISSN: 0021-9533.
PY 1993
AB To study the possible involvement of kinesin-like molecules in mitosis a polyclonal antibody against the head domain of Drosophila kinesin heavy chain (HD antibody) was microinjected into PtK1 cells at the prophase-prometaphase transition. Progress of the cell through mitosis was

recorded for subsequent detailed analysis. Cells injected with pre-immune IgG progressed through mitosis at rates similar to those for noninjected cells. After HD antibody injections, chromosomes failed to congress to an equatorial plane and cells failed to form a bipolar spindle. Rather, the spindle poles came together, resulting in a monopolar-like configuration with chromosomes arranged about the poles in a rosette. Sometimes the monopolar array moved to the margin of the cell in a way similar to anaphase B movement in normal cells. Antibody-injected cells progressed into the next cell cycle as evidenced by chromosome decondensation and nuclear envelope reformation. Anti-tubulin immunofluorescence confirmed the presence of a radial monopolar **array** of microtubules in injected cells. HD **antibody** stained in a punctate pattern in interphase and the spindle region in mitotic PtK1 cells. The antibody also reacted with spindle fibers of isolated mitotic CHO spindles and with kinetochores of isolated CHO chromosomes. Immunoblotting indicated that the major component recognized by the antibody is the 120 kDa kinesin heavy chain. At higher protein loads the antibody recognized also a 34 kDa polypeptide in PtK1 cell extracts, a 135 kDa polypeptide in a preparation of CHO spindles and a 300 kDa polypeptide in a preparation of CHO mitotic chromosomes. We conclude that a kinesin-like molecule is important for the formation and/or maintenance of the structure of mitotic spindle.

L1 ANSWER 17 OF 28 MEDLINE
TI The normal and diseased periodontium and periodontal disease activity.
AU Engel L D; Page R C
SO CURRENT OPINION IN DENTISTRY, (1991 Feb) 1 (1) 4-11. Ref: 38
Journal code: 9106559. ISSN: 1046-0764.
PY 1991
AB Scientific knowledge regarding the cellular and molecular biology of the periodontium in health is fundamental to the determination of how periodontal diseases begin and progress. Advances in diagnosis and treatment are in turn becoming increasingly dependent upon advances in the molecular biology of inflammation-induced changes in the periodontal tissues, and the regenerative capacity of the periodontal cells. New in vitro cell culture models, a broadening **array** of monoclonal **antibody** reagents, and general advances in scientific methodology have presented the field of periodontal research with excellent opportunities to explore the mechanisms of tissue destruction, as well as test innovative means to induce tissue regeneration. Laboratory and clinical findings in the past year have led to major expansions in how we perceive the pathogenesis of periodontal diseases, and also have altered our long-held beliefs about periodontal disease activity.

L1 ANSWER 18 OF 28 MEDLINE
TI Characterization of peptidyl-nucleoside antifungal antibiotics from fermentation broth.
AU Cooper R; Das P; Federbush C; Mierzwa R; Patel M; Pramanik B; Truumees I
SO JOURNAL OF INDUSTRIAL MICROBIOLOGY, (1990 Jan) 5 (1) 1-8.
Journal code: 8610887. ISSN: 0169-4146.
PY 1990
AB Characterization of sinefungin related antifungal antibiotics from fermentation broth was accomplished by coupling photodiode array (PDA) detection to high performance liquid chromatography (HPLC). From the combined HPLC-PDA evaluation of broth filtrate, we detected five sinefungin related components. Fast atom bombardment (FAB) mass spectroscopic evaluations, mass-analysed ion kinetic energy spectra (MIKES) and collision activated (CA) MIKES of these components confirmed their respective identities. Our findings from the combination of HPLC photodiode **array** acquisition and **FAB**-mass spectrometry suggest we have detected the presence of a previously unreported sinefungin analogue.

L1 ANSWER 19 OF 28 MEDLINE
TI The control of antibody production by immunomodulatory molecules.
AU Lipsky P E

SO ARTHRITIS AND RHEUMATISM, (1989 Nov) 32 (11) 1345-55. Ref: 74
Journal code: 0370605. ISSN: 0004-3591.
PY 1989
AB Regulation of human B cell responses is a complex process that involves the activities of a variety of cytokines. There are important differences between the regulation of human and murine B lymphocytes, especially with regard to the action of IL-2. In humans, IL-2 appears to play a central role in regulating B cell activation, proliferation, and differentiation, thereby facilitating the production of immunoglobulins of all isotypes. A wide **array** of additional cytokines can amplify **antibody** production, but none appears to be able to do this in the absence of IL-2; moreover, none appears to enhance the production of only a single isotype of immunoglobulin. Beyond the positive influences of cytokines on B cell responses, at least 2 cytokines, IL-4 and TGF beta, suppress B cell proliferation and differentiation. Inhibition by each of these cytokines can be overcome by specific cytokines that provide positive signals to B cells. Antibody production is thus regulated by a complex array of cytokines with complementary or opposing effects that may be exerted at different stages of B cell responsiveness. Whether specific subpopulations of B cells exhibit unique cytokine requirements for differentiation has not been clearly delineated, nor is it clear whether autoantibody production is uniquely regulated by cytokines. Additional information concerning the role of cytokines in the regulation of B cell function should provide further insight not only into normal antibody production, but also into potential dysregulation that leads to autoimmunity.

L1 ANSWER 20 OF 28 MEDLINE
TI Cloning of the immunological repertoire in Escherichia coli for generation of monoclonal catalytic antibodies: construction of a heavy chain variable region-specific cDNA library.
AU Sastry L; Alting-Mees M; Huse W D; Short J M; Sorge J A; Hay B N; Janda K D; Benkovic S J; Lerner R A
SO PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, (1989 Aug) 86 (15) 5728-32.
Journal code: 7505876. ISSN: 0027-8424.
PY 1989
AB Efficient generation of catalytic antibodies is uniquely dependent on the exact nature of the binding interactions in the antigen-antibody complex. Current methods for generation of monoclonal antibodies do not efficiently survey the immunological repertoire and, therefore, they limit the number of catalysts that can be obtained. We are exploring methods to clone and express the immunological repertoire in Escherichia coli. As the essential first step, we present here a method for the establishment of a highly diverse heavy chain variable region library. Consequently, it should now be possible to express and recombine the heavy and light chain variable region fragments to generate a large **array** of functional combining portions of the **antibody** molecule. This technology may provide an alternative to the hybridoma methodology for accessing the monoclonal antibody specificity of the immune system.

L1 ANSWER 21 OF 28 MEDLINE
TI GC/MS, HPLC and FAB mass spectrometric analysis of organic micropollutants in Barcelona's water supply.
AU Rivera J; Ventura F; Caixach J; De Torres M; Figueras A; Guardiola J
SO INTERNATIONAL JOURNAL OF ENVIRONMENTAL ANALYTICAL CHEMISTRY, (1987) 29 (1-2) 15-35.
Journal code: 0331757. ISSN: 0306-7319.
PY 1987
AB Water samples from Llobregat river entering two water work plants, Barcelona tap water and waste dumping samples taken along the river course were analyzed for trace organic contaminants by different procedures, liquid-liquid extraction, adsorption on granular activated carbon followed by GC/MS/DS. Ether insoluble organic fractions were analyzed and fractionated by HPLC with diode-**array** detection, followed by **FAB** and **FAB**-CID-MIKE characterisation. Results, after

two years monitoring, proved that surfactants, plasticizers, ethyleneglycol derivatives, phosphates, hydrocarbons and other miscellaneous compounds can be considered as chronic pollutants of Llobregat river. Some of the identified compounds by GC/MS and FAB mass spectrometry have not been previously reported to occur in water.

L1 ANSWER 22 OF 28 MEDLINE
TI Immunofluorescence microscopy of tubulin and microtubule arrays in plant cells. III. Transition between mitotic/cytokinetic and interphase microtubule arrays.
AU Wick S M
SO CELL BIOLOGY INTERNATIONAL REPORTS, (1985 Apr) 9 (4) 357-71.
Journal code: 7708050. ISSN: 0309-1651.
PY 1985
AB Immunofluorescence microscopy of flowering plant root cells indicates that the earliest interphase microtubules appear during cytokinesis, radiating from the former spindle poles and subsequently from the nuclear envelope. They form networks that have microtubule focal points in the cortex underlying cell faces and in the cytoplasm between the nucleus and cortex. Cortical networks are rapidly replaced by the highly aligned **array** normally associated with interphase. An **antibody** that in animal cells identifies the location of pericentriolar material, the site of microtubule initiation, is also localized around the plant cell nuclear envelope at the time that putative early interphase microtubule networks are seen.

L1 ANSWER 23 OF 28 MEDLINE
TI Western blot analysis of the human antibody response to Campylobacter jejuni cellular antigens during gastrointestinal infection.
AU Nachamkin I; Hart A M
SO JOURNAL OF CLINICAL MICROBIOLOGY, (1985 Jan) 21 (1) 33-8.
Journal code: 7505564. ISSN: 0095-1137.
PY 1985
AB Western blot analysis was used to identify antigenic components of Campylobacter jejuni whole cells and outer membranes that elicit antibody responses in patients with campylobacter enteritis. Acute- and convalescent-phase sera from eight patients were analyzed for antibody activity against their homologous infecting strains and heterologous clinical isolates. Whole-cell and Sarkosyl-insoluble membrane components were separated by sodium dodecyl sulfate-polyacrylamide gel electrophoresis and transferred electrophoretically to nitrocellulose paper for immunoblotting experiments. After the separated components were probed with patient sera, antibody binding was detected by autoradiography with 125I-protein A. Using this method, we detected several immunogenic components in whole cells and outer membranes. In the acute-phase response of some patients to infection, two to three components with approximate molecular weights of 66,000 (p66), 43,000 to 46,000 (major outer membrane protein), and 12,000 (p12) were detected in immunoblots. Convalescent-phase sera showed a more broad **array** of **antibody** binding to cell components. p66, shown to be campylobacter flagellin, was the major immunodominant component in almost all sera tested, however, p66 was not a major protein in Coomassie blue-stained gels. The major outer-membrane protein also bound to antibody, but with less intensity than p66. In general, the antibody specificity of patient sera was not limited to the homologous infecting strain, and antibodies cross-reacted with most components in heterologous strains. A low-molecular-weight component, identified as lipopolysaccharide with a modified silver stain, showed serological specificity for some patient sera. The results of this study showed that the antibody response of patients with campylobacter enteritis to C. jejuni antigens is variable. Flagellin appeared to be the major immunodominant component during infection.

L1 ANSWER 24 OF 28 MEDLINE
TI Clonally restricted anti-IgG antibodies in rheumatoid arthritis.

AU Persselin J E; Louie J S; Stevens R H
SO ARTHRITIS AND RHEUMATISM, (1984 Dec) 27 (12) 1378-86.
Journal code: 0370605. ISSN: 0004-3591.
PY 1984
AB Clonally restricted anti-IgG antibodies were detected, by isoelectric focusing (IEF) and chromatofocusing techniques, in the sera of patients with rheumatoid arthritis (RA). Anti-Fab antibodies were predominantly acidic proteins with isoelectric points of 4.5-6.5 and displayed restricted spectrotype patterns. Proteins reactive with the Fc portion of IgG showed polyclonal spectrotype patterns with alkaline pI of 7.5-9.0. A limited **array** of anti-**Fab** spectrotypes was consistently detected in RA sera when analyzed by IEF on 6M urea gels. Additional anti-Fab antibody bands were detected when the RA sera were dialyzed against 4-6M urea prior to IEF analysis, indicating that some anti-Fab antibodies exist in a complexed form in serum. Under these dissociating conditions, anti-Fab antibodies could also be detected in normal subjects, but the spectrotype patterns were more restricted than those in RA sera. Because anti-Fab antibodies may regulate normal immune responses, the increased quantity of clonally restricted anti-Fab antibodies in RA may indicate an abnormality of this immunoregulation.

L1 ANSWER 25 OF 28 MEDLINE
TI A library of monoclonal antibodies to Torpedo cholinergic synaptosomes.
AU Kushner P D
SO JOURNAL OF NEUROCHEMISTRY, (1984 Sep) 43 (3) 775-86.
Journal code: 2985190R. ISSN: 0022-3042.
PY 1984
AB A library of monoclonal antibodies was generated to the cholinergic synaptosome. The immunogen was a preparation of highly purified synaptosomes from Torpedo electric organ. One hundred forty-one hybridoma cell lines were generated from the fusion of a single mouse. Tests reveal these cells produce antibodies with a vast range of neuronal specificities. The initial screen for specificity of antibody production was solid phase radioimmune binding to the original, highly purified synaptosome preparation. Subsequent tissue specificity tests have indicated that most antibodies are synaptosome-specific amongst the fish tissues tested: brain, liver, and purified synaptic vesicles. Less than 11% cross-react with liver. Many antibodies cross-react with frog and rat CNS. Localization within the frog and rat nervous tissue has revealed a vast **array** of **antibody** staining patterns. Some antibodies stain in a synaptic fashion. A few stain a restricted set of mammalian CNS neurons. Others define a broader set of CNS neurons. These Torpedo antibodies promise to be valuable probes with which to describe the molecular cell biology of the nervous system, of neurons in general, and of cholinergic neurons in particular.

L1 ANSWER 26 OF 28 MEDLINE
TI Induction of chemiluminescence during interaction of tumoricidal effector cell populations and tumor cells is dependent on the presence of mycoplasma.
AU Koppel P; Peterhans E; Bertoni G; Keist R; Groscurth P; Wyler R; Keller R
SO JOURNAL OF IMMUNOLOGY, (1984 Apr) 132 (4) 2021-9.
Journal code: 2985117R. ISSN: 0022-1767.
PY 1984
AB A variety of host cells, such as activated macrophages, natural killer (NK) cells, and polymorphonuclear leukocytes (PMNL), are cytotoxic for an **array** of non-**antibody**-coated tumor cells. Because such effector cells appear to use oxygen-dependent mechanisms to effect tumor cell destruction in certain systems, the possibility of an involvement of toxic oxygen species has been considered. To investigate whether interaction of effector cells with neoplastic cells induces the generation of reactive oxygen species, resting and activated rat macrophages and rat spleen cells (as a source of NK activity) were exposed to viable tumor cells of varied origin, and chemiluminescence was monitored. This sensitive indicator of reactive oxygen generation was stimulated only when

tumor cells or culture supernatants were contaminated with mycoplasma. Mycoplasma-free tumor cells and culture supernatants were in no case able to trigger chemiluminescence in any of these effector cell populations. On the other hand, tumor targets were equally susceptible to killing by effector cells irrespective of whether mycoplasma were present. The data suggest that generation of chemiluminescence during interaction of natural cytotoxic cells and neoplastic cells is an artifact and that reactive oxygen species do not function as an effector mechanism in antibody-independent natural killing effected by activated macrophages and NK cells.

L1 ANSWER 27 OF 28 MEDLINE
TI A microtubule-associated protein antigen unique to mitotic spindle microtubules in PtK1 cells.
AU Izant J G; Weatherbee J A; McIntosh J R
SO JOURNAL OF CELL BIOLOGY, (1983 Feb) 96 (2) 424-34.
Journal code: 0375356. ISSN: 0021-9525.
PY 1983
AB Microtubule-associated proteins (MAPs) that copurify with tubulin through multiple cycles of in vitro assembly have been implicated as regulatory factors and effectors in the in vivo activity of microtubules. As an approach to the analysis of the functions of these molecules, a collection of lymphocyte hybridoma monoclonal antibodies has been generated using MAPs from HeLa cell microtubule protein as antigen. Two of the hybridoma clones secrete IgGs that bind to distinct sites on what appears to be a 200,000-dalton polypeptide. Both immunoglobulin preparations stain interphase and mitotic apparatus microtubules in cultured human cells. One of the clones (N-3B4.3.10) secretes antibody that reacts only with cells of human origin, while antibody from the other hybridoma (N-2B5.11.2) cross-reacts with BSC and PtK1 cells, but not with 3T3 cells. In PtK1 cells the N-2B5 antigen is associated with the microtubules of the mitotic apparatus, but there is no staining of the interphase microtubule **array**; rather, the **antibody** stains an ill-defined juxtanuclear structure. Further, neither antibody stains vinblastine crystals in either human or marsupial cells at any stage of the cell cycle. N-2B5 antibody microinjected into living PtK1 cells binds to the mitotic spindle, but does not cause a rapid dissolution of either mitotic or interphase microtubule structures. When injected before the onset of anaphase, however, the N-2B5 antibody inhibits proper chromosome partition in mitotic PtK1 cells. N-2B5 antibody injected into interphase cells causes a redistribution of MAP antigen onto the microtubule network.

L1 ANSWER 28 OF 28 MEDLINE
TI Heterogeneity of the natural humoral anti-tumor immune response in mice as shown by monoclonal antibodies.
AU Colnaghi M I; Menard S; Tagliabue E; Torre G D
SO JOURNAL OF IMMUNOLOGY, (1982 Jun) 128 (6) 2757-62.
Journal code: 2985117R. ISSN: 0022-1767.
PY 1982
AB Four anti-tumor cytotoxic antibodies, namely, A6 of the IgG2 class and B3, C2, and D1 of the IgM class, were obtained in monoclonal form, from hybridization of mouse myeloma cells with spleen cells of normal untreated mice selected for high natural anti-tumor immune responses. The specificity of the four monoclonals was tested by complement-dependent cytotoxicity assay on the reference EL4 lymphoma at different days of in vivo transplant, on normal adult and fetal tissues, on the SC-1 fibroblastic cell line uninfected or infected with a murine ecotropic type-C virus, and on a panel of murine lymphomas of different origin. The four antibodies had different specificities: the A6 and B3 recognized virus-related structures, the C2 a structure expressed on fetal cells, and the D1 a normal component of fibroblasts. The different classes and specificities of the four monoclonals, as well as their in vitro-demonstrated synergistic cooperation, give support to the hypothesis that the natural humoral anti-tumor cytotoxic immune response could be the result of the cooperative activity of an **array** of heterogeneous

antibody molecules.

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        226091 ANTIGEN
        731093 BINDING
         39765 DERIVATIVE
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L3           0 L2 NOT L1
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=> d l2 1-24 ti au so py ab

L2 ANSWER 1 OF 34 CA COPYRIGHT 2003 ACS
TI A microarray immunoassay for simultaneous detection of proteins and bacteria
AU Delehanty, James B.; Ligler, Frances S.
SO Analytical Chemistry (2002), 74(21), 5681-5687
CODEN: ANCHAM; ISSN: 0003-2700
PY 2002
AB We report the development and characterization of an antibody microarray biosensor for the rapid detection of both protein and bacterial analytes under flow conditions. Using a noncontact microarray printer, biotinylated capture antibodies were immobilized at discrete locations on the surface of an avidin-coated glass microscope slide. Preservation of capture antibody function during the deposition process was accomplished with the use of a low-salt buffer contg. sucrose and bovine serum albumin. The slide was fitted with a six-channel flow module that conducted analyte-contg. solns. over the **array** of capture **antibody** microspots. Detection of bound analyte was subsequently achieved using fluorescent tracer antibodies. The pattern of fluorescent complexes was interrogated using a scanning confocal microscope equipped with a 635-nm laser. This microarray system was employed to detect protein and bacterial analytes both individually and in samples contg. mixts. of analytes. Assays were completed in 15 min, and detection of cholera toxin, staphylococcal enterotoxin B, ricin, and Bacillus globigii was demonstrated at levels as low as 8 ng/mL, 4 ng/mL, 10 ng/mL, and 6.2.times.104 cfu/mL, resp. The assays presented here are very fast, as compared to previously published methods for measuring antibody-antigen interactions using microarrays (minutes vs. hours).

L2 ANSWER 2 OF 34 CA COPYRIGHT 2003 ACS
TI Method for producing protein arrays from mRNA arrays
SO Ger. Offen., 8 pp.
CODEN: GWXXBX
PY 2002
AB A method for prepg. an ordered protein **array** (e.g., **scFv** array) comprises translation of an ordered mRNA array. The proteins so produced contain a tag. A second surface contg. a protein which binds to the tag is pressed to the surface of the first array in order to transfer the proteins and create the ordered protein array.

L2 ANSWER 3 OF 34 CA COPYRIGHT 2003 ACS
TI An antibody-based protein array system
IN Huang, Ruo-Pan
SO PCT Int. Appl., 105 pp.
CODEN: PIXXD2
PY 2002
AB The invention of novel protein microarrays and protein microarray-based techniques to det. the presence and amts. of proteins of interest are described. These microarrays and methods of use can be used for the simultaneous detection of a multiplicity of antigens or antibodies in a high throughput assay based upon the differential affinity of mols. for one another. The microarrays can be formed by immobilizing capture proteins in an array on a membrane. Analytes of interest can be bound by the capture proteins and can be detected either by the position to which they are immobilized or by the identity of detecting proteins or agents which bind to the analytes of interest. The interactions that can be detected using the present invention can also be used to characterize proteins of unknown identity or character. Diagrams describing the app. assembly and operation are given.

L2 ANSWER 4 OF 34 CA COPYRIGHT 2003 ACS
TI Protein arrays comprising plural antibodies or fragments obtained from Camelidae for diagnosis

IN De Haard, Johannes Joseph Wilhelmus; Hermans, Pim; Landa, Ilse; Verrips, Cornelis Theodorus
SO PCT Int. Appl., 80 pp.
CODEN: PIXXD2
PY 2002
2002
AB Protein arrays are provided comprising single domain antibodies obtainable from Camelidae which are capable of detecting even minor changes in the expression of proteins in cell and tissue exts. and having an optimal signal to noise ratio by removing non-informative abundant proteins from said cell or tissue exts. The antibody heavy chain variable domains are preferably prepd. from phage antibody library of unimmunized animal of the genus of camelidae.

L2 ANSWER 5 OF 34 CA COPYRIGHT 2003 ACS
TI Peptide Arrays for Highly Sensitive and Specific Antibody-Binding Fluorescence Assays
AU Melnyk, Oleg; Duburcq, Xavier; Olivier, Christophe; Urbes, Florence; Auriault, Claude; Gras-Masse, Helene
SO Bioconjugate Chemistry (2002), 13(4), 713-720
CODEN: BCCHES; ISSN: 1043-1802
PY 2002
AB The authors report a novel generation of peptide arrays fabricated by site-specific ligation of glyoxylyl peptides onto glass slides covered by a semicarbazide sol-gel layer. These arrays allowed the highly sensitive and specific detection of antibodies in very small blood samples from infected individuals using three model peptidic epitopes (HCV Core and NS4, EBV Capsid) in an immunofluorescence assay. Comparison with std. enzyme-linked immunosorbent assays (ELISAs) demonstrated a large gain in sensitivity and specificity. These unique properties, combined with the possibility to immobilize glycoproteins such as antibodies, offer the possibility to perform sandwich immunofluorescent assays in a highly parallel format.

L2 ANSWER 6 OF 34 CA COPYRIGHT 2003 ACS
TI Highly sensitive proteomic analysis methods and kits and systems for practicing the same
IN Tchaga, Grigoriy S.
SO PCT Int. Appl., 89 pp.
CODEN: PIXXD2
PY 2002
2002
2002
AB The invention concerns methods of detg. whether a sample includes one or more analytes, particularly proteinaceous analytes, of interest are provided. In the subject methods, an array of binding agents, where each binding agent includes an epitope binding domain of an antibody, is contacted with the sample. In many embodiments, contacts occurs in the presence of a metal ion chelating polysaccharide, e.g., a pectin. Following contact, the presence of binding complexes on the array surface are detected and the resultant data is employed to det. whether the sample includes the one or more analytes of interest. Also provided are kits, systems and other compns. of matter for practicing the subject methods. The subject methods and compns. find use in a variety of applications, including proteomic applications such as protein expression anal., e.g., differential protein expression profiling.

L2 ANSWER 7 OF 34 CA COPYRIGHT 2003 ACS
TI Immobilized antibody arrays
IN Hu, Qianjin
SO PCT Int. Appl., 17 pp.
CODEN: PIXXD2
PY 2002
2002
2002

2002
AB The author discloses the use of an immobilized **array** of monoclonal antibodies (or **antibody** fragments) for identifying target antigens and reactive antibodies.

L2 ANSWER 8 OF 34 CA COPYRIGHT 2003 ACS
TI Polynucleotides differentially expressed in colon cancers, their encoded polypeptides, diagnostic and therapeutic uses
IN Kennedy, Giulia C.; Kang, Sanmao; Reinhard, Christoph; Jefferson, Anne Bennet
SO PCT Int. Appl., 135 pp.
CODEN: PIXXD2
PY 2001
2001
2003
AB The present invention is based on the discovery of polynucleotides that represent genes that are differentially expressed in colon cancer, e.g., adenomatous polyp, colorectal carcinoma, high metastatic potential colon tumor and metastatic colon cancer. The invention features methods of identifying cells affected by such colon diseases by detection of a gene product encoded by such differentially expressed genes, as well as method of modulating expression of such gene products to effect therapy (e.g., to decrease growth and/or affect abnormal characteristics of cancerous or displastic colon cells). CDNA libraries from cell lines and tissue sources were grouped into clusters of signature sequences by hybridization and computational anal. Clones which correspond to genes that are differentially expressed in tissues from colon cancer patients were identified by comparing the cDNA library clusters. Overexpression of the cloned cDNAs was measured with tissue samples and colon epithelial cells from patients with colon cancer by RT-PCR. Expression of clone SK2 was further analyzed in different cancer cell lines. Some antisense oligonucleotides for genes corresponding to the isolated clones lowered mRNA expression, inhibited cell proliferation, reduced colony formation in soft agar, and affected apoptosis as measured by cellular assays. Differential gene expression was also analyzed with cDNA microarrays using labeled cDNA probes prepd. from total RNA from normal and cancerous cells.

L2 ANSWER 9 OF 34 CA COPYRIGHT 2003 ACS
TI Immunophenotyping of leukemias using a cluster of differentiation antibody microarray
AU Belov, Larissa; De la Vega, Odetta; Dos Remedios, Cristobal G.; Mulligan, Stephen P.; Christopherson, Richard I.
SO Cancer Research (2001), 61(11), 4483-4489
CODEN: CNREA8; ISSN: 0008-5472
PY 2001
AB Different leukemias express on their plasma membranes particular subsets of the 247 defined cluster of differentiation (CD) antigens, which may resemble those of precursor cells along the lineages of differentiation to mature myeloid and lymphoid leukocytes. The extent of use of CD antigen expression (immunophenotyping) for identification of leukemias has been constrained by the technique used, flow cytometry, which commonly specifies only three CD antigens in any one assay. Currently, leukemias and lymphomas are diagnosed using a combination of morphol., immunophenotype, cytochem., and karyotype. The authors have developed a rapid, simple procedure, which enables concurrent detn. of 50 or more CD antigens on leukocytes or leukemia cells in a single anal. using a microarray of antibodies. A suspension of cells is applied to the **array**, and cells only bind to **antibody** dots for which they express the corresponding CD antigen. For patients with significantly raised leukocyte counts, the resulting dot pattern then represents the immunophenotype of those cells. For patients at earlier stages of disease, the diagnosis depends on recognition of dot patterns distinct from the background of normal leukocytes. Distinctive and reproducible dot patterns have been obtained for normal peripheral blood leukocytes, chronic lymphocytic leukemia (CLL), hairy cell leukemia,

mantle cell lymphoma, acute myeloid leukemia, and T-cell acute lymphoblastic leukemia. The consensus pattern for CD antigen expression found on CLL cells taken from 20 patients in descending order of cells bound was CD44, HLA-DR, CD37, CD19, CD20, CD5, CD52, CD45RA, CD22, CD24, CD45, CD23, CD21, CD71, CD11c, and CD9. The antigens that provided the best discrimination between CLL and normal peripheral blood leukocytes were CD19, CD20, CD21, CD22, CD23, CD24, CD25, and CD37. Results obtained for the expression of 48 CD antigens from the microarray compared well with flow cytometry. The microarray enables extensive immunophenotyping, and the intact cells captured on antibody dots can be further characterized using sol., fluorescently labeled antibodies.

L2 ANSWER 10 OF 34 CA COPYRIGHT 2003 ACS
TI Monitoring of gene expression by detecting hybridization to nucleic acid arrays using anti-heteronucleic acid (anti-HNA) antibodies
IN Linsley, Peter S.; Baeuerle, Patrick
SO U.S., 18 pp.
CODEN: USXXAM
PY 2001
AB The present invention relates to compns. and methods for detecting, measuring or monitoring gene expression by detecting hybridization of RNA or RNA mimics to DNA arrays. The invention provides a sensitive, specific method for detecting hybridization on nucleic acid arrays using anti-heteronucleic acid (anti-HNA) antibodies to detect of RNA-DNA duplexes on arrays, preferably DNA microarrays using RNA probes derived directly from the cell, thus obviating the need for isolation of the poly(A)+fraction. The invention provides methods for simultaneously monitoring the expression of a multiplicity of genes.

L2 ANSWER 11 OF 34 CA COPYRIGHT 2003 ACS
TI Compositions and methods for detecting protein modification and enzymatic activity
IN Shen, Li; Cen, Debra Hui
SO PCT Int. Appl., 69 pp.
CODEN: PIXXD2
PY 2001
2002
2002
AB This invention relates generally to the field of protein modification, e.g., post-translational modification. In particular, the invention provides a method for detecting protein modification profile in a sample, which method comprises: (a) contacting a sample contg. or suspected of contg. a target protein with a capture mol., or a plurality of capture mols., immobilized on a solid support, said capture mol. is capable of specifically binding to said target protein, whereby said target protein is immobilized on said solid support; and (b) assessing modification status and/or identity of said immobilized target protein. Kits and arrays useful for detecting protein modification are also provided. Arrays, kits and methods useful for detecting enzymic activities, esp. protein modification enzymic activities, are further provided.

L2 ANSWER 12 OF 34 CA COPYRIGHT 2003 ACS
TI Antibody arrays for high-throughput screening of antibody-antigen interactions
AU De Wildt, Ruud M. T.; Mundy, Chris R.; Gorick, Barbara D.; Tomlinson, Ian M.
SO Nature Biotechnology (2000), 18(9), 989-994
CODEN: NABIF9; ISSN: 1087-0156
PY 2000
AB We have developed a novel technique for high-throughput screening or recombinant antibodies, based on the creation of antibody arrays. Our method uses robotic picking and high-d. gridding of bacteria contg. antibody genes followed by filter-based ELISA screening to identify clones that express binding antibody fragments. By eliminating the need for liq. handling, we can thereby screen up to 18,342 different antibody clones at

a time and, because the clones are arrayed from master stocks, the same antibodies can be double spotted and screened simultaneously against 15 different antigens. We have used our technique in several different applications, including isolating antibodies against impure proteins and complex antigens, where several rounds of phage display often fail. Our results indicate that antibody arrays can be used to identify differentially expressed proteins.

L2 ANSWER 13 OF 34 CA COPYRIGHT 2003 ACS
TI Layer-by-layer deposition of avidin and biotin-labeled antibody on a solid surface to prepare a multilayer **array** of **antibody**
AU Hoshi, Tomonori; Saiki, Hidekazu; Anzai, Jun-ichi
SO Journal of the Chemical Society, Perkin Transactions 2: Physical Organic Chemistry (1999), (7), 1293-1294
CODEN: JCPKBH; ISSN: 0300-9580
PY 1999
AB Multilayer thin films contg. an antibody have been prepd. successfully by depositing avidin and biotin-labeled antibody alternately and repeatedly on the surface of a quartz slide, in which the antibody retains its binding activity.

L2 ANSWER 14 OF 34 CA COPYRIGHT 2003 ACS
TI High density arrays for proteomic analysis
IN Miller, Samuel; Humphery-Smith, Ian
SO PCT Int. Appl., 129 pp.
CODEN: PIXXD2
PY 1999
1999
1999
2001
2000
2002
AB The invention provides high-d. arrays comprising a primary protein **array** and a secondary **antibody** array, wherein the secondary **array** comprises monoclonal antibodies and/or **antibody** variants or derivs. that bind specifically or non-specifically to one or more proteins in the primary array, and wherein the secondary array is used to det. the protein profile of a cell, tissue, organ or whole organism or a cellular ext., lysate or protein fraction derived therefrom. Also provided are methods of detg. the epitope profile of cells, tissues, organs and whole organisms and cellular exts., lysates or protein fractions derived therefrom, using the high d. protein arrays of the invention, in particular in relation to diagnostic and therapeutic applications. The invention further provides for the enrichment of native proteins from complex mixts. of cellular proteins by employing one or more antibodies uniquely recognizing an antigen of interest as defined by recognition patterns obtained when screening secondary antibody arrays against primary antigen arrays. In addn., one or more antibodies can be employed to produce a unique tag for target antigens and is employed to follow the expression levels of complex mixts. of cellular proteins and is conducted independently of the sepn. sciences. A similar approach is employed to produce a fingerprint of a biol. sample, based upon recognition of a multiplicity of individual antigens providing a pattern useful in recognition or diagnosis of a group of biol. samples of interest in healthy and diseased samples, or test and control exptl. situations for diagnostic purposes.

L2 ANSWER 15 OF 34 CA COPYRIGHT 2003 ACS
TI Method for promoting enzyme diversity using transgenic germline altering techniques
IN Wohlstadter, Jacob N.
SO U.S., 21 pp., Cont.-in-part of U.S. Ser. No. 476,135.
CODEN: USXXAM
PY 1999
1999

1999
1996
1997
2001

AB The invention is directed to a method for generating novel catalysts; particularly high turnover rate enzymes or biocatalysts. Functional catalytic units may be integrated into the germline compn. of an animal in order to generate such novel catalysts. The invention provides a novel method for utilizing transgenic/knock-out germline altering techniques to implant sequences encoding functional catalytic domains and/or structures in the germline antibody sequence of an animal. The sequences encoding the specificity regions of the implanted functional enzyme are inserted into the germline of the animal so as to correspond to the CDR regions of the antibody so as to promote rapid evolution/diversification of the specificity regions of the enzyme. The method provides for a varying **array** of chimeric **antibody**/enzyme structures.

L2 ANSWER 16 OF 34 CA COPYRIGHT 2003 ACS
TI Edrecolomab (monoclonal antibody 17-1A)
AU Adkins, Julie C.; Spencer, Caroline M.
SO Drugs (1998), 56(4), 619-626
CODEN: DRUGAY; ISSN: 0012-6667
PY 1998
AB A review with 41 refs. Edrecolomab is a mouse-derived monoclonal IgG2a antibody. It recognizes the human tumor-assocd. antigen CO17-1A which is expressed on the cell surface of a wide variety of tumors and normal epithelial tissue. Edrecolomab is thought to destroy tumor cells by activating an **array** of endogenous cytotoxic mechanisms, including **antibody**-dependent cell-mediated cytotoxicity and possibly antibody-dependent complement-mediated cytotoxicity. Edrecolomab may induce antitumor activity indirectly by inducing a host anti-idiotypic antibody response. Adjuvant therapy with edrecolomab (500mg initial dose followed by four 100mg infusions administered at 4-weekly intervals) significantly improved survival and reduced the tumor recurrence rate in patients with resected Dukes' stage C colorectal cancer and minimal residual disease. Data from several small clin. trials suggest that edrecolomab given as monotherapy or in combination with other antineoplastic agents has limited efficacy in the treatment of advanced colorectal or pancreatic tumors. However, results from a small phase I study in patients with advanced breast cancer were more promising. Edrecolomab was generally well tolerated in clin. trials. In a postmarketing surveillance study, the most common adverse events assocd. with edrecolomab were flushing/erythema and gastrointestinal symptoms including diarrhea, abdominal pain and nausea and vomiting. Because edrecolomab is of murine origin, anaphylactic reactions have developed in some patients treated with the drug.

L2 ANSWER 17 OF 34 CA COPYRIGHT 2003 ACS
TI The adenomatous polyposis coli-binding protein EB1 is associated with cytoplasmic and spindle microtubules
AU Berrueta, Lisbeth; Kraeft, Stine-Katherine; Tirnauer, Jennifer S.; Schuyler, Scott C.; Chen, Lan Bo; Hill, David E.; Pellman, David; Bierer, Barbara E.
SO Proceedings of the National Academy of Sciences of the United States of America (1998), 95(18), 10596-10601
CODEN: PNASA6; ISSN: 0027-8424
PY 1998
AB The evolutionarily conserved protein EB1 originally was identified by its phys. assocn. with the carboxyl-terminal portion of the adenomatous polyposis coli (APC) tumor suppressor protein, an APC domain commonly mutated in familial and sporadic forms of colorectal neoplasia. The subcellular localization of EB1 in epithelial cells was studied by using immunofluorescence and biochem. techniques. EB1 colocalized both to cytoplasmic microtubules in interphase cells and to spindle microtubules during mitosis, with pronounced centrosome staining. The cytoskeletal

array detected by anti-EB1 **antibody** was abolished by incubation of the cells with nocodazole, an agent that disrupts microtubules; upon drug removal, EB1 localized to the microtubule-organizing center. Immunofluorescence anal. of SW480, a colon cancer cell line that expresses only carboxyl-terminal-deleted APC unable to interact with EB1, demonstrated that EB1 remained localized to the microtubule cytoskeleton, suggesting that this pattern of subcellular distribution is not mediated by its interaction with APC. In vitro cosedimentation with taxol-stabilized microtubules demonstrated that a significant fraction of EB1 assocd. with microtubules. Recent studies of the yeast EB1 homologues Mal3 and Bim1p have demonstrated that both proteins localize to microtubules and are important in vivo for microtubule function. Results demonstrate that EB1 is a novel component of the microtubule cytoskeleton in mammalian cells. Assocg. with the mitotic app., EB1 may play a physiol. role connecting APC to cellular division, coordinating the control of normal growth and differentiation processes in the colonic epithelium.

L2 ANSWER 18 OF 34 CA COPYRIGHT 2003 ACS
TI Effects of carrier and hapten array on the production of anti-hapten antibodies analyzed by two-dimensional affinity electrophoresis
AU Wang, Pei; Nakamura, Kazuyuki
SO Electrophoresis (1998), 19(8-9), 1506-1510
CODEN: ELCTDN; ISSN: 0173-0835
PY 1998
AB Effects of a carrier, bovine serum albumin (BSA) and a hapten array, fluorescein isothiocyanate-conjugated dextran (FITC-DEX), on the prodn. of anti-FITC antibodies in BALB/c mice were analyzed by 2-D affinity electrophoresis (2-D AEP). The mice were immunized with FITC-BSA, followed by immunizations with FITC-BSA, saline, BSA, human serum albumin (HSA), fluorescein (Flu), and FITC-DEX. The heterogeneity and quantity of anti-FITC antibodies were increased markedly during the 2nd and 3rd immunization with FITC-BSA. The prodn. of anti-FITC antibodies with low affinity to FITC was suppressed by the 2nd and 3rd immunization with the carrier protein of BSA. The suppression of anti-FITC antibodies by immunization with BSA may be due to the MHC-mediated competition through antigen processing and the clonal expansion of BSA-specific B cells because similar suppression was induced by the immunization with HSA. The hapten array of FITC-DEX generally suppressed the prodn. of anti-FITC antibodies; however, immunization with free hapten of Flu did not affect the prodn. This may indicate that crosslinking of anti-FITC antibodies on the surface of specific B cells via the binding of hapten array is required for the suppression.

L2 ANSWER 19 OF 34 CA COPYRIGHT 2003 ACS
TI Immunity to PRRSV: Double-edged sword
AU Molitor, T. W.; Bautista, E. M.; Choi, C. S.
SO Veterinary Microbiology (1997), 55(1-4), 265-276
CODEN: VMICDQ; ISSN: 0378-1135
PY 1997
AB A review with 33 refs. The immune system is a double-edged sword for porcine reproductive and respiratory syndrome virus (PRRSV) infection. On one edge PRRSV has a predilection for immune cells and the disease manifestations can be linked directly to changes in the immune system. PRRSV appears to replicate extensively, if not exclusively, in cells of the immune lineage, notably macrophages; the direct replication of which may lead to immunosuppression, ppt. secondary infection and/or mediate disease. On the other edge, the virus stimulates immunity post-infection that protects an animal from re-infection. A vast **array** of structural and functionally distinct **antibody** specific to PRRSV are generated following infection or vaccination. Discrete populations of functional antibodies appear at different times and possibly reflect reactivity to different PRRSV polypeptides. Cell-mediated immune responses specific to PRRSV can be detected in various exposed pigs as well. Thus, the immune system appears to be intimately involved in both

the disease process and protection from disease. It is unclear at this state of understanding what immune compartment provides protective immunity. Is it humoral (i.e. antibodies), selective functionally distinct populations of antibodies specific for selected PRRSV polypeptides or is cellular immunity essential for protection, or both. This review will attempt to summarize the current state of knowledge of the complex interaction of the immune system and PRRSV.

L2 ANSWER 20 OF 34 CA COPYRIGHT 2003 ACS
TI Virus specific antibodies from a phage-display library
AU Ziegler, A.; Harper, K.; Torrance, L.
SO BCPC Symposium Proceedings (1996), 65(Diagnostics in Crop Production), 35-8
CODEN: BSPRFW
PY 1996
AB Antibody fragments (scFv) that bind specifically to particles of cucumber mosaic cucumovirus (CMV), and potato leafroll luteovirus (PLRV) were obtained from a library which encodes a diverse **array** of synthetic **antibody** fragments displayed on the surface of filamentous bacteriophage. Several virus-specific clones were obtained after only 3 or 4 rounds of selection against particles of CMV or PLRV. The nucleotide sequences of the secreted scFv were typical of Ig variable domains and both phage-displayed and sol. scFv reacted with either CMV- or PLRV-infected plant sap exts. In immunoblotting tests, sol. scFv prepns. reacted with SDS-denatured coat protein extd. from purified prepns. of CMV isolates belonging to either subgroups I or II, and also with protein extd. by SDS-treatment of seeds harvested from naturally infected lupin plants. The PLRV specific scFv were sub-cloned into an expression vector so that they were obtained fused to alk. phosphatase (AP). The scFv-AP fusions were functional, detecting PLRV in infected sap. The results demonstrate the feasibility, and potential applicability, of recombinant antibodies to the detection of plant viruses.

L2 ANSWER 21 OF 34 CA COPYRIGHT 2003 ACS
TI Durable elimination of high affinity, T cell-dependent antibodies by low molecular weight antigen arrays in vivo
AU Symer, David E.; Reim, Johannes; Dintzis, Renee Z.; Voss, Edward W., Jr.; Dintzis, Howard M.
SO Journal of Immunology (1995), 155(12), 5608-16
CODEN: JOIMA3; ISSN: 0022-1767
PY 1995
AB Ongoing Ab responses to a T cell-dependent Ag can be suppressed in hyperimmune animals by exogenous, multivalent Ag arrays. The pharmacol. basis for this suppression was studied by varying the mol. mass, ligand valence, and dose of Ag arrays, and then detg. their efficacy, pharmacokinetics, and tissue distribution. Arrays ranging in mol. mass from 30 to 500 kDa caused initial clearance of specific serum Abs, but only the smaller arrays caused persistent suppression despite their relatively lower binding avidity and shorter retention in vivo. Suppression by the smaller arrays at lower doses was biphasic, implying two distinct modes of ab elimination. High affinity IgG was eliminated preferentially, as shown by calibrated variable ligand-d. ELISA. Suppressive arrays were localized discretely in the splenic germinal centers of hyperimmune animals. These results indicate that Ag array mass, ligand valence, and dose all play crit. roles, and histol. compartmentalization may also be a pertinent parameter, in detg. suppressive efficacy in vivo.

L2 ANSWER 22 OF 34 CA COPYRIGHT 2003 ACS
TI Cucumber mosaic cucumovirus antibodies from a synthetic phage display library
AU Ziegler, A.; Torrance, L.; Macintosh, S. M.; Cowan, G. H.; Mayo, M. A.
SO Virology (1995), 214(1), 235-8
CODEN: VIRLAX; ISSN: 0042-6822
PY 1995

AB Antibody fragments (scFv) that bind specifically to particles of cucumber mosaic cucumovirus (CMV) were obtained from a library which encodes a diverse **array** of synthetic **antibody** fragments, each displayed on the surface of filamentous bacteriophage. After four rounds of selection and enrichment, several clones were obtained which produced scFv that bound specifically to purified particles of CMV in ELISA. BstNI digestion of phagemid DNA resulted in the same restriction pattern for all clones. The nucleotide sequences of three of the clones showed that they belonged to the human VH1 family and that they had a complementarity detg. region loop of 7 amino acids. Phage-displayed antibodies and sol. scFv secreted by these clones reacted with particles of CMV in sap from infected plants in ELISA. In immunoblotting tests, sol. scFv prepns. reacted with SDS-denatured coat protein extd. from purified prepns. of CMV isolates belonging to either subgroup I or II and also with protein extd. by SDS treatment of seeds harvested from naturally infected lupine plants. The results demonstrate the feasibility, and potential applicability, of recombinant antibody methods in plant pathol.

L2 ANSWER 23 OF 34 CA COPYRIGHT 2003 ACS
TI Chlorophylls and their enzymic hydrolyzed derivatives in Chlorella
AU Liu, Hsiao Wen; Huang, Tzou Chi
SO Shipin Kexue (Taipei, Taiwan) (1994), 21(3), 197-206
CODEN: SPKHE6; ISSN: 0253-8997
PY 1994
AB The compn. of the chlorophylls and their enzymic hydrolyzed derivs. in incubated Chlorella ext. were characterized by using both HPLC equipped with a photodiode **array** detector and **FAB** mass spectrometry. Chlorophylls a and b, chlorophyllides a and b, pheophorbides a and b, and pheophytins a and b were tentatively characterized by comparing the absorption spectrum between that of Chlorella and spinach. The structures of the chlorophylls and their derivs. were confirmed by the mol. ion and some major fragments in the FAB mass spectra. Most com. available Chlorella tablets contain mainly chlorophylls (40-60%), with minor amts. of pheophytin (20-40%) and trace amts. of pheophorbides. In some unusual samples, with water activity higher than 0.5, significant increases in enzymic hydrolyzed derivs., pheophorbide (2.97-10.53%) and chlorophyllide (0.44-1.76%) were obsd. These data indicated that activity of chlorophyllase may be slightly activated under some storage conditions for Chlorella tablets.

L2 ANSWER 24 OF 34 CA COPYRIGHT 2003 ACS
TI Clonal selection and amplification of phage displayed antibodies by linking antigen recognition and phage replication
AU Duenas, Marta; Borrebaeck, Carl A. K.
SO Bio/Technology (1994), 12(10), 999-1002
CODEN: BTCHDA; ISSN: 0733-222X
PY 1994
AB The immune response generates a tremendous **array** of **antibody** specificities by VDJ-gene rearrangements. A similar diversity can be obtained by expressing entire V-gene repertoires on the surface of filamentous bacteriophages creating large antibody libraries. The clonal selection mechanisms of the humoral immune response can also be mimicked in the phage display system by linking antigen-recognition and phage replication. This was achieved by displaying antibody libraries on engineered, non-infectious phage with gene 3 deletions. Individual, antigen-specific phage are made replication-competent by allowing a fusion protein, consisting of the antigen and phage coat protein 3, to bind the displayed antibody fragment. This fusion protein bridges the phage and F-pili of the bacteria and allows infection to be initiated and the phage to be clonally amplified with specific enrichment factors of .apprx.1010 after only two rounds.

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         23997 ARRAY
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         13220 FAB
          1230 SCFV
        283991 ANTIGEN
        557526 BINDING
         74376 DERIVATIVE
             0 ANTIGEN BINDING DERIVATIVE
               (ANTIGEN(W)BINDING(W)DERIVATIVE)
L4          22 ARRAY(6W)(ANTIBODY OR FAB OR SCFV OR ANTIGEN BINDING DERIVATIVE)

=> s l2 not l4
         23997 ARRAY
        339992 ANTIBODY
         13220 FAB
          1230 SCFV
        283991 ANTIGEN
        557526 BINDING
         74376 DERIVATIVE
             0 ANTIGEN BINDING DERIVATIVE
               (ANTIGEN(W)BINDING(W)DERIVATIVE)
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L5           0 L2 NOT L4

=> d l4 1-22 ti au so py ab

L4   ANSWER 1 OF 22  BIOSIS  COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI   Single antigen array for identification of HLA antibody
     profiles in human sera.
AU   Lee, Jar-how (1); Pei, Rui (1); Shih, Remi (1); Chen, Mike (1); Hernandez,
     Iris (1)
SO   Human Immunology, (2002) Vol. 63, No. Supplement 1, pp. S76.
     http://www.elsevier.com/locate/humimm. print.
     Meeting Info.: 28th Annual Meeting of the American Society for
     Histocompatibility and Immunogenetics Nashville, TN, USA October 19-23,
     2002 American Society for Histocompatibility and Immunogenetics
     . ISSN: 0198-8859.
PY   2002

L4   ANSWER 2 OF 22  BIOSIS  COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI   Immunophenotyping of leukemias using a cluster of differentiation antibody
     microarray.
AU   Belov, Larissa; de la Vega, Odetta; dos Remedios, Cristobal G.; Mulligan,
     Stephen P.; Christopherson, Richard I. (1)
SO   Cancer Research, (June 1, 2001) Vol. 61, No. 11, pp. 4483-4489. print.
     ISSN: 0008-5472.
PY   2001
```

AB Different leukemias express on their plasma membranes particular subsets of the 247 defined cluster of differentiation (CD) antigens, which may resemble those of precursor cells along the lineages of differentiation to mature myeloid and lymphoid leukocytes. The extent of use of CD antigen expression (immunophenotyping) for identification of leukemias has been constrained by the technique used, flow cytometry, which commonly specifies only three CD antigens in any one assay. Currently, leukemias and lymphomas are diagnosed using a combination of morphology, immunophenotype, cytochemistry, and karyotype. We have developed a rapid, simple procedure, which enables concurrent determination of 50 or more CD antigens on leukocytes or leukemia cells in a single analysis using a microarray of antibodies. A suspension of cells is applied to the **array**, and cells only bind to **antibody** dots for which they express the corresponding CD antigen. For patients with significantly raised leukocyte counts, the resulting dot pattern then represents the immunophenotype of those cells. For patients at earlier stages of disease, the diagnosis depends on recognition of dot patterns distinct from the background of normal leukocytes. Distinctive and reproducible dot patterns have been obtained for normal peripheral blood leukocytes, chronic lymphocytic leukemia (CLL), hairy cell leukemia, mantle cell lymphoma, acute myeloid leukemia, and T-cell acute lymphoblastic leukemia. The consensus pattern for CD antigen expression found on CLL cells taken from 20 patients in descending order of cells bound was CD44, HLA-DR, CD37, CD19, CD20, CD5, CD52, CD45RA, CD22, CD24, CD45, CD23, CD21, CD71, CD11c, and CD9. The antigens that provided the best discrimination between CLL and normal peripheral blood leukocytes were CD19, CD20, CD21, CD22, CD23, CD24, CD25, and CD37. Results obtained for the expression of 48 CD antigens from the microarray compared well with flow cytometry. The microarray enables extensive immunophenotyping, and the intact cells captured on antibody dots can be further characterized using soluble, fluorescently labeled antibodies.

L4 ANSWER 3 OF 22 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI The distribution of myosin heavy chain isoforms among rat extraocular muscle fiber types.
AU Rubinstein, Neal A. (1); Foon Yoong Hoh, Joseph
SO IOVS, (OCTOBER, 2000) Vol. 41, No. 11, pp. 3391-3398. print.
PY 2000
AB Purpose: To determine the distribution of myosin heavy chain isoforms in each extraocular muscle (FOM) fiber type. Methods: Serial sections of adult rat EOMs were stained with isoform-specific monoclonal antibodies against an **array** of myosin heavy chains. Immunofluorescent **antibody** staining of whole adult rat EOMs, examined by confocal microscopy, demonstrated the longitudinal variations of isoforms along individual fibers. Results: Each global fiber type reacted predominantly with a single isoform-specific antibody and showed no longitudinal variation. Two major orbital fibers were defined, and both contained multiple myosin heavy chains. Both orbital singly and multiply innervated fibers stained proximal and distal to the neuromuscular junction with antibody to embryonic myosin heavy chain, but this isoform was sharply and completely excluded from the domain of the neuromuscular junction. Orbital singly innervated fibers also contained the EOM-specific isoform at the neuromuscular junction. Orbital multiply innervated fibers did not contain the EOM-specific isoform, but additionally contained a slow isoform along their entire length. Conclusions: Adult rat EOMs show unique fiber types with arrangements of myosin heavy chain isoforms not seen in other skeletal muscles. Moreover, unique cellular mechanisms must exist to target each isoform to its proper domain along individual orbital fibers.

L4 ANSWER 4 OF 22 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Selection of hapten structures for indirect immunosensor arrays.
AU Schuetz, Andreas J.; Winklmair, Michael; Weller, Michael G. (1); Niessner, Reinhard
SO Fresenius' Journal of Analytical Chemistry, (April, 1999) Vol. 363, No. 7, pp. 625-631.

ISSN: 0937-0633.
PY 1999
AB A multianalyte immunosensor array can be implemented by immobilization of different haptens in distinct areas of a single cavity or flow cell. In this case a mixture of different antibodies for different analytes is used in an indirect ELISA-format. The selection of the right hapten structures is very important to build up an **array** successfully. A system of independent hapten/**antibody** combinations is needed, with one immobilized hapten (coating antigen) reacting only with one antibody. If more than one antibody binds to a coating antigen no ideal calibration curves are obtained. This phenomenon is known as shared-reactivity and can lead to double-sigmoidal curves. To use monoclonal antibodies to 2,4,6-trinitrotoluene (TNT) and 2,4-dichlorophenoxyacetic acid (2,4-D), two different haptens had to be found, one only reacting with the TNT-antibody, the other only binding to the 2,4-D-antibody. 2,4-Dichlorophenoxybutyric acid was used for the 2,4-D antibody and 2,4,6-trinitrophenyl-8-aminooctanoic acid for the TNT antibody. Although 4-nitrotoluene, 2,4-dinitrotoluene and 4-amino-2,6-dinitrotoluene showed only very low cross-reactivities to the 2,4-D antibody, the corresponding haptens 4-nitrophenyl-acetic acid, 2,4-dinitrophenyl-6-aminohexanonic acid, and 4-amino-2,6-dinitrotoluyl-(N)-glutarate are useful coating antigens for this antibody. The structure of the coating antigens had no significant influence on the mid-points (IC50) of the test for 2,4-D and even haptens with very low cross-reactivities could be used. With all haptens a test midpoint of about 0.2 mug/L for 2,4-D was achieved. For the direct assay format with immobilized antibodies the same test midpoint of 0.2 mug/L for 2,4-D was obtained. As a conclusion, the selectivity of a monoclonal antibody should not be influenced by the used tracer or coating antigen as well. It could be shown that the affinity constants of an antibody to the analytes are the main sensitivity and selectivity determining parameters for competitive immunoassays. A two-dimensional microtiter plate array was used to determine the analytes 2,4-D and TNT in parallel with a mixture of antibodies.

L4 ANSWER 5 OF 22 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI The adenomatous polyposis coli-binding protein EB1 is associated with cytoplasmic and spindle microtubules.
AU Berrueta, Lisbeth; Kraeft, Stine-Katherine; Tirnauer, Jennifer S.; Schuyler, Scott C.; Chen, Lan Bo; Hill, David E.; Pellman, David; Bierer, Barbara E. (1)
SO Proceedings of the National Academy of Sciences of the United States of America, (Sept. 1, 1998) Vol. 95, No. 18, pp. 10596-10601. ISSN: 0027-8424.
PY 1998
AB The evolutionarily conserved protein EB1 originally was identified by its physical association with the carboxyl-terminal portion of the adenomatous polyposis coli (APC) tumor suppressor protein, an APC domain commonly mutated in familial and sporadic forms of colorectal neoplasia. The subcellular localization of EB1 in epithelial cells was studied by using immunofluorescence and biochemical techniques. EB1 colocalized both to cytoplasmic microtubules in interphase cells and to spindle microtubules during mitosis, with pronounced centrosome staining. The cytoskeletal **array** detected by anti-EB1 **antibody** was abolished by incubation of the cells with nocodazole, an agent that disrupts microtubules; upon drug removal, EB1 localized to the microtubule-organizing center. Immunofluorescence analysis of SW480, a colon cancer cell line that expresses only carboxyl-terminal-deleted APC unable to interact with EB1, demonstrated that EB1 remained localized to the microtubule cytoskeleton, suggesting that this pattern of subcellular distribution is not mediated by its interaction with APC. In vitro cosedimentation with taxol-stabilized microtubules demonstrated that a significant fraction of EB1 associated with microtubules. Recent studies of the yeast EB1 homologues Mal3 and Bim1p have demonstrated that both proteins localize to microtubules and are important in vivo for microtubule function. Our results demonstrate that EB1 is a novel

component of the microtubule cytoskeleton in mammalian cells. Associating with the mitotic apparatus, EB1 may play a physiologic role connecting APC to cellular division, coordinating the control of normal growth and differentiation processes in the colonic epithelium.

L4 ANSWER 6 OF 22 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Immunity to PRRSV: Double-edged sword.
AU Molitor, T. W. (1); Bautista, E. M.; Choi, C. S.
SO Veterinary Microbiology, (1997) Vol. 55, No. 1-4, pp. 265-276.
ISSN: 0378-1135.
PY 1997
AB The immune system is a double-edged sword for porcine reproductive and respiratory syndrome virus (PRRSV) infection. On one edge PRRSV has a predilection for immune cells and the disease manifestations can be linked directly to changes in the immune system. PRRSV appears to replicate extensively, if not exclusively, in cells of the immune lineage, notably macrophages; the direct replication of which may lead to immunosuppression, precipitate secondary infection and/or mediate disease. On the other edge, the virus stimulates immunity post-infection that protects an animal from reinfection. A vast **array** of structural and functionally distinct **antibody** specific to PRRSV are generated following infection or vaccination. Discrete populations of functional antibodies appear at different times and possibly reflect reactivity to different PRRSV polypeptides. Cell-mediated immune responses specific to PRRSV can be detected in various exposed pigs as well. Thus, the immune system appears to be intimately involved in both the disease process and protection from disease. It is unclear at this state of understanding what immune compartment provides protective immunity. Is it humoral (i.e. antibodies), selective functionally distinct populations of antibodies specific for selected PRRSV polypeptides or is cellular immunity essential for protection, or both. This review will attempt to summarize the current state of knowledge of the complex interaction of the immune system and PRRSV.

L4 ANSWER 7 OF 22 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Cucumber mosaic cucumovirus antibodies from a synthetic phage display library.
AU Ziegler, A. (1); Torrance, L.; Macintosh, S. M.; Cowan, G. H.; Mayo, M. A.
SO Virology, (1995) Vol. 214, No. 1, pp. 235-238.
ISSN: 0042-6822.
PY 1995
AB Antibody fragments (scFv) that bind specifically to particles of cucumber mosaic cucumovirus (CMV) were obtained from a library which encodes a diverse **array** of synthetic **antibody** fragments, each displayed on the surface of filamentous bacteriophage. After four rounds of selection and enrichment, several clones were obtained which produced scFv that bound specifically to purified particles of CMV in ELISA. BstNI digestion of phagemid DNA resulted in the same restriction pattern for all clones. The nucleotide sequences of three of the clones showed that they belonged to the human V-H1 family and that they had a complementarily determining region loop of 7 amino acids. Phage-displayed antibodies and soluble scFv secreted by these clones reacted with particles of CMV in sap from infected plants in ELISA. In immunoblotting tests, soluble scFv preparations reacted with SDS-denatured coat protein extracted from purified preparations of CMV isolates belonging to either subgroup I or II and also with protein extracted by SDS treatment of seeds harvested from naturally infected lupin plants. The results demonstrate the feasibility, and potential applicability, of recombinant antibody methods in plant pathology.

L4 ANSWER 8 OF 22 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Comparison of IgE and IgG antibody responses of atopic individuals with sensitization to tree and grass pollens.
AU Olsen, E.; Fallang, A.; Mohapatra, S. S.
SO Allergy (Copenhagen), (1995) Vol. 50, No. 9, pp. 734-740.

ISSN: 0105-4538.
PY 1995
AB Sera of atopic individuals with predominant sensitization to either tree pollen (TAs) or tree and grass pollens (TGAs) as well as of nonatopic subjects (NAs) were analyzed for IgE, IgG, and IgG4 antibodies specific for grass pollen allergens. Of 600 atopic individuals with serum IgE antibodies specific for birch pollen allergens, 54% also had serum IgE antibodies specific for grass pollen. The mean titers of IgG antibodies specific for grass pollen proteins were about 10 times higher in the sera of TGAs than those in the TAs and NAs. SDS-PAGE immunoblotting analysis of grass pollen proteins using sera of TGAs, TAs, and NAs with respect to the binding of these proteins with IgE and IgG antibodies in these sera exhibited a similar pattern of variation. Quantitation by enzyme immunoassay of the antibody binding to a recombinant grass pollen allergen, rKBG8.3, further demonstrated that elevated IgG antibody levels in TGAs are mainly due to a broader range of specificities, and not to high specific binding to the individual protein. Statistically significant correlation was found between IgE and IgG4 antibodies specific for the Kentucky bluegrass (KBG) extract, but not for the isolated recombinant allergen. These results indicate that the grass pollens elicit a complex **array** of **antibody** specificities in both atopics and nonatopics, and that the profile of antibodies specific to the pollen extract and pure allergens differs, suggesting that single grass allergens may be inadequate for replacing grass pollen extracts for immunotherapy.

L4 ANSWER 9 OF 22 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Characterization of the major anthocyanin in acidified green ginger (Zingiber officinale Roscoe.
AU Fu, Hui-Yin; Huang, Tzou-Chi (1); Ho, Chi-Tang; Daun, Henryk
SO Journal of the Chinese Agricultural Chemical Society, (1993) Vol. 31, No. 5, pp. 587-595.
ISSN: 0578-1736.
PY 1993
AB The coloration related compounds in acidified green ginger were isolated, purified and characterized in this study. The aglycone of the major green ginger anthocyanin (85% by weight) was tentatively identified as cyanidin by using cellulose TLC, HPLC and UV-VIS Spectrometry. The sugar group was characterized as glucose by gas chromatography. The acyl group was not detected by HPLC. The major anthocyanin in acidified green ginger was characterized as cyanidin-3-glucoside by using HPLC with Photodiode **Array** detection and **FAB**-MS.

L4 ANSWER 10 OF 22 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Native oligomeric forms of HIV-1 envelope glycoprotein elicit a diverse **array** of monoclonal **antibody** reactivities.
AU Earl, Patricia L. (1); Broder, Christopher C. (1); Long, Deborah; Moss, Bernard (1); Doms, Robert W.
SO Journal of Cellular Biochemistry Supplement, (1994) Vol. 0, No. 18B, pp. 148.
Meeting Info.: Keystone Symposium on Prevention and Treatment of AIDS Hilton Head Island, South Carolina, USA January 23-30, 1994
ISSN: 0733-1959.
PY 1994

L4 ANSWER 11 OF 22 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Kinesin-like molecules involved in spindle formation.
AU Rodionov, Vladimir I. (1); Gelfrand, Vladimir I.; Borisy, Gary G.
SO Journal of Cell Science, (1993) Vol. 106, No. 4, pp. 1179-1188.
ISSN: 0021-9533.
PY 1993
AB To study the possible involvement of kinesin-like molecules in mitosis a polyclonal antibody against the head domain of Drosophila kinesin heavy chain (HD antibody) was microinjected into PtK-1 cells at the prophase-prometaphase transition. Progress of the cell through mitosis was recorded for subsequent detailed analysis. Cells injected with pre-immune

IgG progressed through mitosis at rates similar to those for noninjected cells. After HD antibody injections, chromosomes failed to congress to an equatorial plane and cells failed to form a bipolar spindle. Rather, the spindle poles came together, resulting in a monopolar-like configuration with chromosomes arranged about the poles in a rosette. Sometimes the monopolar array moved to the margin of the cell in a way similar to anaphase B movement in normal cells. Antibody-injected cells progressed into the next cell cycle as evidenced by chromosome decondensation and nuclear envelope reformation. Anti-tubulin immunofluorescence confirmed the presence of a radial monopolar **array** of microtubules in injected cells. HD **antibody** stained in a punctate pattern in interphase and the spindle region in mitotic PtK-1 cells. The antibody also reacted with spindle fibers of isolated mitotic CHO spindles and with kinetochores of isolated CHO chromosomes. Immunoblotting indicated that the major component recognized by the antibody is the 120 kDa kinesin heavy chain. At higher protein loads the antibody recognized also a 34 kDa polypeptide in PtK-1 cell extracts, a 135 kDa polypeptide in a preparation of CHO spindles and a 300 kDa polypeptide in a preparation of CHO mitotic chromosomes. We conclude that a kinesin-like molecule is important for the formation and/or maintenance of the structure of mitotic spindle.

L4 ANSWER 12 OF 22 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI THE STRUCTURE OF VERSON'S CELLS IN EPHESTIA-KUEHNIELLA Z. PYRALIDAE LEPIDOPTERA.
AU WOLF K W
SO CELL TISSUE RES, (1991) 266 (3), 525-534.
CODEN: CTSRCS. ISSN: 0302-766X.
PY 1991
AB Testis follicles of Lepidoptera contain a large somatic cells termed Verson's cells. The present study focuses on the structure of Verson's cells and neighbouring germ cells in the Mediterranean mealmoth, Ephestia kuehniella (Pyralidae), using electron microscopy, and antitubulin immunofluorescence, and phalloidin incubation for the visualization of microfilaments. Verson's cells of young larvae are connected with the follicle boundary and show large areas containing packages of glycogen particles, whereas Verson's cells of pupae lie freely within the testis follicle and are largely devoid of glycogen. Both developmental stages of Verson's cells have in common the presence of a dense cytoplasmic network of microtubules. A juxtanuclear subset of the cytoplasmic microtubule **array** is recognized by an **antibody** against acetylated microtubules. This indicates that more stable microtubules exists in this region. Microfilaments are arranged parallel to the cytoplasmic microtubules. The microtubule-microfilament-complex forms a cytoskeleton that may keep larger organelles, such a mitochondria and lysosomes, in a juxtanuclear position. Chromatin within the nuclei of Verson's cells is largely decondensed and nuclear pores are abundant. This indicates a high synthetic activity within the cells. The development of cells directly attached to Verson's cells, viz. prespermatognia, may be controlled by the Verson's cells. Prespermatogonia, which differ in cytoplasmic density from spermatogonia further away from Verson's cells, may represent stem cells that give rise to spermatogonia and somatic cyst cells upon detachment from Verson's cells. This suggestion is compatible with the low division rate of prespermatogonia.

L4 ANSWER 13 OF 22 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI CHARACTERIZATION OF PEPTIDYL NUCLEOSIDE ANTIFUNGAL ANTIBIOTICS FROM FERMENTATION BROTH.
AU COOPER R; DAS P; FEDERBUSH C; MIERZWA R; PATEL M; PRAMANIK B; TRUUMEES I
SO J IND MICROBIOL, (1990) 5 (1), 1-8.
CODEN: JIMIE7. ISSN: 0169-4146.
PY 1990
AB Characterization of sinefungin related antifungal antibiotics from fermentation broth was accomplished by coupling photodiode array (PDA) detection to high performance liquid chromatography (HPLC). From the combined HPLC-PDA evaluation of broth filtrate, we detected five

sinefungin related components. Fast atom bombardment (FAB) mass spectroscopic evaluations, mass-analysed ion kinetic energy spectra (MIKES) and collision activated (CA) MIKES of these components confirmed their respective identities. Our findings from the combination of HPLC photodiode **array** acquistion and **FAB**-mass spectrometry suggest we have detected the presence of a previously unreported sinefungin analogue.

L4 ANSWER 14 OF 22 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI CLONING OF THE IMMUNOLOGICAL REPERTOIRE IN ESCHERICHIA-COLI FOR GENERATION OF MONOCLONAL CATALYTIC ANTIBODIES CONSTRUCTION OF A HEAVY CHAIN VARIABLE REGION-SPECIFIC COMPLEMENTARY DNA LIBRARY.
AU SASTRY L; ALTING-MEES M; HUSE W D; SHORT J M; SORGE J A; HAY B N; JANDA K D; BENKOVIC S J; LERNER R A
SO PROC NATL ACAD SCI U S A, (1989) 86 (15), 5728-5732.
CODEN: PNASA6. ISSN: 0027-8424.
PY 1989
AB Efficient generation of catalytic antibodies is uniquely dependent on the exact nature of the binding interactions in the antigen-antibody complex. Current methods for generation of monoclonal antibodies do not efficiently survey the immunological repertoire and, therefore, they limit the number of catalysts that can be obtained. We are exploring methods to clone and express the immunological repertoire in Escherichia coli. As the essential first step, we present here a method for the establishment of a highly diverse heavy chain variable region library. Consequently, it should now be possible to express and recombine the heavy and light chain variable region fragments to generate a large **array** of functional combining portions of the **antibody** molecule. This technology may provide an alternative to the hybridoma methodology for accessing the monoclonal antibody specificity of the immune system.

L4 ANSWER 15 OF 22 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI IMMUNOFLUORESCENCE MICROSCOPY OF TUBULIN AND MICROTUBULE ARRAYS IN PLANT CELLS 3. TRANSITION BETWEEN MITOTIC-CYTOKINETIC AND INTERPHASE MICROTUBULE ARRAYS.
AU WICK S M
SO CELL BIOL INT REP, (1985) 9 (4), 357-372.
CODEN: CBRPDS. ISSN: 0309-1651.
PY 1985
AB Immunofluorescence microscopy of flowering plant root cells indicates that the earliest interphase microtubules appear during cytokinesis, radiating from the former spindle poles and subsequently from the nuclear envelope. They form networks that have microtubule focal points in the cortex underlying cell faces and in the cytoplasm between the nucleus and cortex. Cortical networks are rapidly replaced by the highly aligned **array** normally associated with interphase. An **antibody** that in animal cells identifies the location of pericentriolar material, the site of microtubule initiation, is also localized around the plant cell nuclear envelope at the time that putative early interphase microtubule networks are seen.

L4 ANSWER 16 OF 22 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI CLONALLY RESTRICTED ANTI-IMMUNOGLOBULIN ANTIBODIES IN RHEUMATOID ARTHRITIS.
AU PERSSELIN J E; LOUIE J S; STEVENS R H
SO ARTHRITIS RHEUM, (1984 (RECD 1985)) 27 (12), 1378-1386.
CODEN: ARHEAW. ISSN: 0004-3591.
PY 1984
AB Clonally restricted anti-IgG antibodies were detected, by isoelectric focusing (IEF) and chromatofocusing techniques, in the sera of patients with rheumatoid arthritis (RA). Anti-Fab antibodies were predominantly acidic proteins with isoelectric points of 4.5-6.5 and displayed restricted spectrotype patterns. Proteins reactive with the Fc portion of IgG showed polyclonal spectrotype patterns with alkaline pI of 7.5-9.0. A limited **array** of anti-**Fab** spectrotypes was

consistently detected in RA sera when analyzed by IEF on 6 M urea gels. Additional anti-Fab antibody bands were detected when the RA sera were dialyzed against 4-6 M urea prior to IEF analysis, indicating that some anti-Fab antibodies exist in a complexed form in serum. Under these dissociating conditions, anti-Fab antibodies could also be detected in normal subjects, but the spectrotype patterns were more restricted than those in RA sera. Because anti-Fab antibodies may regulate normal immune responses, the increased quantity of clonally restricted anti-Fab antibodies in RA may indicate an abnormality of this immunoregulation.

L4 ANSWER 17 OF 22 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI WESTERN BLOT ANALYSIS OF THE HUMAN ANTIBODY RESPONSE TO CAMPYLOBACTER-JEJUNI CELLULAR ANTIGENS DURING GASTROINTESTINAL INFECTION.
AU NACHAMKIN I; HART A M
SO J CLIN MICROBIOL, (1985) 21 (1), 33-38.
CODEN: JCMIDW. ISSN: 0095-1137.
PY 1985
AB Western blot analysis was used to identify antigenic components of C. jejuni whole cells and outer membranes that elicit antibody responses in patients with campylobacter enteritis. Acute- and convalescent-phase sera from 8 patients were analyzed for antibody activity against their homologous infecting strains and heterologous clinical isolates. Whole-cell and Sarkosyl-insoluble membrane components were separated by sodium dodecyl sulfate-polyacrylamide gel electrophoresis and transferred electrophoretically to nitrocellulose paper for immunoblotting experiments. After the separated components were probed with patient sera, antibody binding was detected by autoradiography with 125I-protein A. Using this method, several immunogenic components were detected in whole cells and outer membranes. In the acute-phase response of some patients to infection, 2-3 components with approximate MW of 66,000 (p66), 43,000-46,000 (major outer membrane protein), and 12,000 (p12) were detected in immunoblots. Convalescent-phase sera showed a more broad **array** of **antibody** binding to cell components, p66, shown to be campylobacter flagellin, was the major immunodominant component in almost all sera tested, but was not a major protein in Coomassie blue-stained gels. The major outer-membrane protein also bound to antibody, but with less intensity than p66. In general, the antibody specificity of patient sera was not limited to the homologous infecting strain, and antibodies cross-reacted with most components in heterologous strains. A low-MW component, identified as lipopolysaccharide with a modified Ag stain, showed serological specificity for some patient sera. Thus, the antibody response of patients with campylobacter enteritis to C. jejuni antigens is variable. Flagellin appears to be the major immunodominant component during infection.

L4 ANSWER 18 OF 22 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI A LIBRARY OF MONOCLONAL ANTIBODIES TO TORPEDO-CALIFORNICA CHOLINERGIC SYNAPTOSOMES.
AU KUSHNER P D
SO J NEUROCHEM, (1984) 43 (3), 775-786.
CODEN: JONRA9. ISSN: 0022-3042.
PY 1984
AB A library of monoclonal antibodies was generated to the cholinergic synaptosome. The immunogen was a preparation of highly purified synaptosomes from Torpedo electric organ. Hybridoma cell lines (141) were generated from the fusion of a single mouse. Tests reveal these cells produce antibodies with a vast range of neuronal specificities. The initial screen for specificity of antibody production was solid phase radioimmune binding to the original, highly purified synaptosome preparation. Subsequent tissue specificity tests have indicated that most antibodies are synaptosome-specific amongst the fish tissues tested: brain, liver and purified synaptic vesicles. Less than 11% cross-react with liver. Many antibodies cross-react with frog and rat CNS. Localization within the frog and rat nervous tissue has revealed a vast **array** of **antibody** staining patterns. Some antibodies

stain in a synaptic fashion. A few stain a restricted set of mammalian CNS neurons. Others define a broader set of CNS neurons. These Torpedo antibodies promise to be valuable probes with which to describe the molecular cell biology of the nervous system, of neurons in general and of cholinergic neurons in particular.

L4 ANSWER 19 OF 22 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI INDUCTION OF CHEMI LUMINESCENCE DURING INTERACTIONS OF TUMORICIDAL EFFECTOR CELL POPULATIONS AND TUMOR CELLS IS DEPENDENT ON THE PRESENCE OF MYCOPLASMA.
AU KOEPPEL P; PETERHANS E; BERTONI G; KEIST R; GROSCURTH P; WYLER R; KELLER R
SO J IMMUNOL, (1984) 132 (4), 2021-2029.
CODEN: JOIMA3. ISSN: 0022-1767.
PY 1984
AB A variety of host cells, such as activated macrophages, natural killer (NK) cells and polymorphonuclear leukocytes, ar cytotoxic for an **array** of non-**antibody**-coated tumor cells. Because such effector cells appear to use oxygen-dependent mechanisms to effect tumor cell destruction in certain systems, the possibility of an involvement of toxic oxygen species was considered. To investigate whether interaction of effector cells with neoplastic cells induces the generation of reactive oxygen species, resting and activated rat macrophages and rat spleen cells (as a source of NK activity) were exposed to viable tumor cells of varied origin, and chemiluminescence was monitored. This sensitive indicator of reactive oxygen generation was stimulated only when tumor cells or culture supernatants were contaminated with mycoplasma. Mycopalsma-free tumor cells and culture supernatants were in no case able to trigger chemiluminescence in any of these effector cell populations. Tumor targets were equally susceptible to killing by effector cells irrespective of whether mycoplasma were present. Generation of chemiluminescence during interaction of natural cytotoxic cells and neoplastic cells is probably an artifact reactive oxygen species apparently do not function as an effector mechanism in antibody-independent natural killing effected by activated macrophages and NK cells.

L4 ANSWER 20 OF 22 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI A MICRO TUBULE ASSOCIATED PROTEIN ANTIGEN UNIQUE TO MITOTIC SPINDLE MICRO TUBULES IN PTK-1 CELLS.
AU IZANT J G; WEATHERBEE J A; MCINTOSH J R
SO J CELL BIOL, (1983) 96 (2), 424-434.
CODEN: JCLBA3. ISSN: 0021-9525.
PY 1983
AB Microtubule-associated proteins (MAP) that copurify with tubulin through multiple cycles of in vitro assembly were implicated as regulatory factors and effectors in the in vivo activity of microtubules. As an approach to the analysis of the functions of these molecules, a collection of lymphocyte hybridoma monoclonal antibodies was generated using MAP from HeLa [human cervical carcinoma] cell microtubule protein as antigen. Two of the hybridoma clones secrete IgG that bind to distinct sites on what appears to be a 200,000-dalton polyeptpde. Both Ig preparations stain interphase and mitotic apparatus microtubules in cultured human cells. One of the clones (N-3B4.3.10) secretes antibody that reacts only with cells of human origin, while antibody from the other hybridoma (N-2B5.11.2) cross-reacts with BSC and PtK1 cells, but not with 3T3 cells. In PtK1 cells the N-2B5 antigen is associated with the microtubules of the mitotic apparatus, but there is no staining of the interphase microtubule **array**; rather, the **antibody** stains an ill-defined juxtanuclear structure. Neither antibody stains vinblastine crystals in either human or marsupial cells at any stage of the cell cycle. N-2B5 antibody microinjected into living PtK1 cells binds to the mitotic spindle, but does not cause a rapid dissolution of either mitotic or interphase microtubule structures. When injected before the onset of anaphase, the N-2B5 antibody inhibits proper chromosome partition in mitotic PtK1 cells. N-2B5 antibody injected into interphase cells causes a redistribution of MAP antigen onto the microtubule network.

L4 ANSWER 21 OF 22 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI HETEROGENEITY OF THE NATURAL HUMORAL ANTI TUMOR IMMUNE RESPONSE IN MICE AS SHOWN BY MONO CLONAL ANTIBODIES.
AU COLNAGHI M I; MENARD S; TAGLIABUE E; TORRE G D
SO J IMMUNOL, (1982) 128 (6), 2757-2762.
CODEN: JOIMA3. ISSN: 0022-1767.
PY 1982
AB Four anti-tumor cytotoxic antibodies, namely, A6 of the IgG2 class and B3, C2 and D1 of the IgM class, were obtained in monoclonal form from hybridization of mouse myeloma cells with spleen cells of normal untreated mice selected for high natural anti-tumor immune responses. The specificity of the 4 monoclonals was tested by complement-dependent cytotoxicity assay on the reference EL4 lymphoma at different days of in vivo transplant, on normal adult and fetal tissues, on the SC-1 fibroblastic cell line uninfected or infected with a murine ecotropic type-C virus, and on a panel of murine lymphomas of different origin. The 4 antibodies had different specificities: the A6 and B3 recognized virus-related structures, the C2 a structure expressed on fetal cells, and the D1 a normal component of fibroblasts. The different classes and specificities of the 4 monoclonals, as well as their in vitro-demonstrated synergistic cooperation, give support to the hypothesis that the natural humoral anti-tumor cytotoxic immune response could be the result of the cooperative activity of an **array** of heterogeneous **antibody** molecules.

L4 ANSWER 22 OF 22 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI GENERATION OF MULTIPLE GENETIC SPECIFICITIES ORIGIN OF GENETIC POLYMORPHISM THROUGH GENE REGULATION.
AU PANDEY K K
SO THEOR APPL GENET, (1977) 49 (2), 85-93.
CODEN: THAGA6. ISSN: 0040-5752.
PY 1977
AB Based on results of mutation studies in the fungus Schizophyllum commune a new mechanism of the origin of genetic polymorphism is proposed. This may explain the intractable problems of the rise of multiple allelism controlling incompatibility in plants and the wide **array** of **antibody** diversity controlling immunity reactions in animals.

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